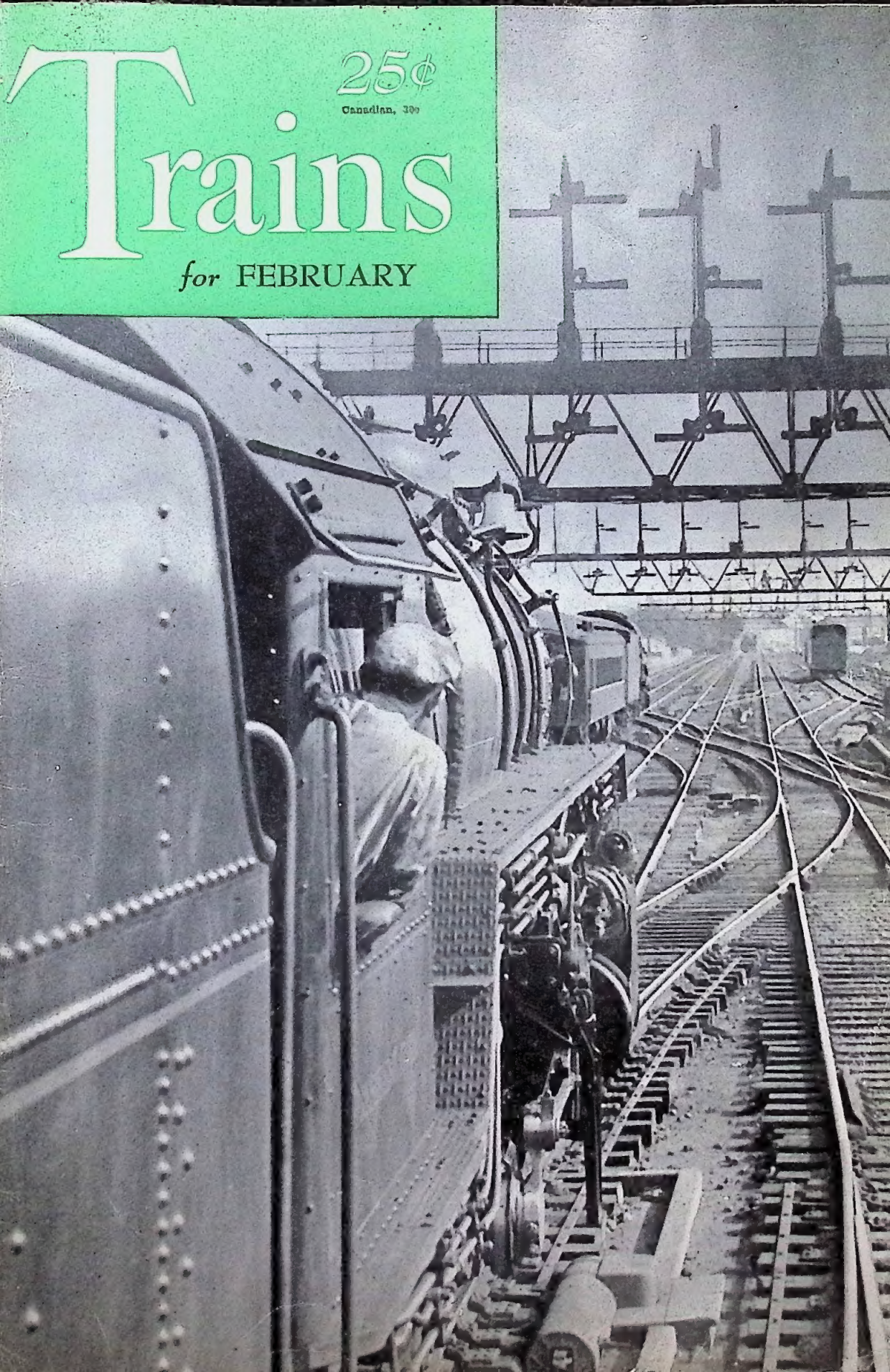
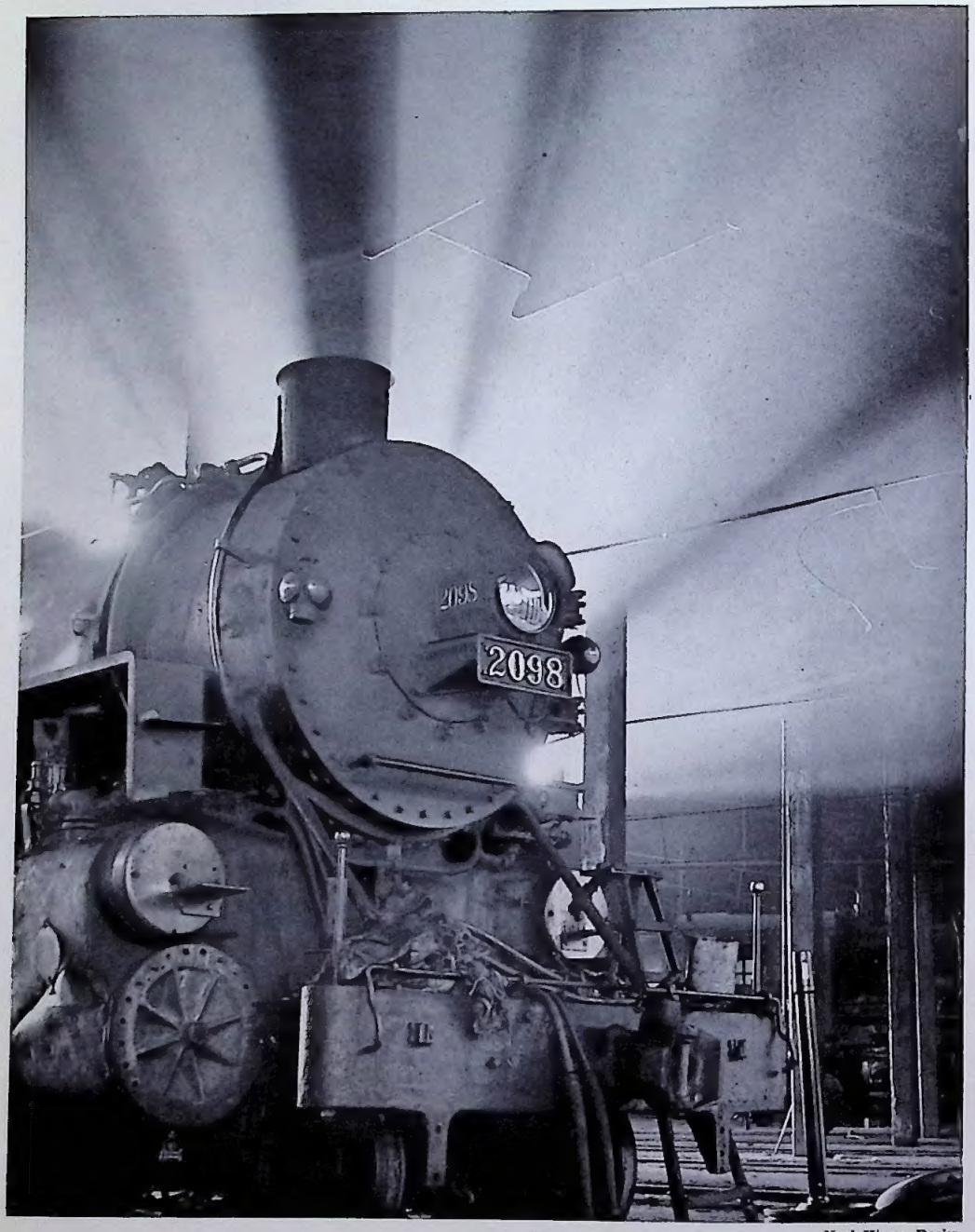
Trains

25¢

Canadian, 30¢

for FEBRUARY





Noel Hiram Deeks.

Lehigh Valley engine at Sayre, Pa.

No. 2098 stands in the engine house of the Lehigh Valley's important shops at Sayre, Pa. The pilot and cylinder covers, as well as the coupler knuckle, have been removed. No. 2098 is a Pacific used in LV passenger service. It is Class K-6b, cylinders 25″ x 28″, drivers 77″, tractive power 41,534 pounds. The engine is equipped with a booster which adds an additional 10,400 pounds to the starting tractive power.

Waybills

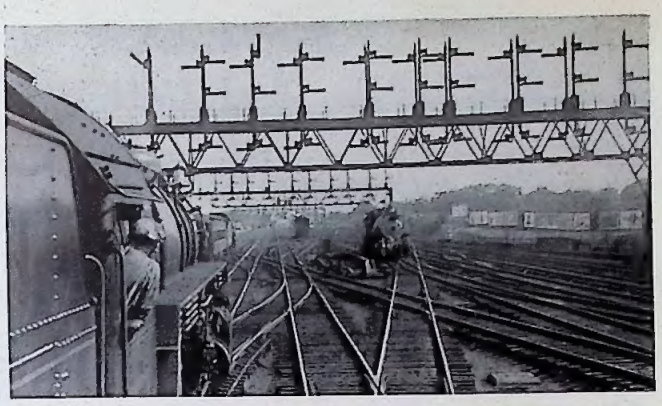
Our story about passenger agents (page 12) brings to mind a true story about two small children who were put on the train for a city 75 miles distant, where they were to visit an aunt. The aunt failed to meet them, the mother had failed to tell the children the name or address of the aunt, and things looked bad. The station passenger agent called the agent at the children's home city and learned that the mother lived 10 miles from the station and had no phone.

The ticket agent found someone to drive out to the mother's farm and she returned to the station, talked to the passenger agent by phone, and when it was impossible to locate the aunt, agreed to pay the return fare to the ticket agent. The children were put in care of the conductor on the returning train, with instructions to collect at destination. Three hours after embarking they were back, thanks to the fact that railroad passenger agents are always ready to render just a little more service than the mere price of transportation seems to call for.

The editors of TRAINS are building up a file of railroad fans in various parts of the country who are experts on particular railroads or types of equipment and who can be called upon to help in supplying information, pictures, or both. Do you wish to be included in this file? If so, send your name and address and tell us the kind of information you can furnish.

We now have a limited quantity of the first issue of TRAINS (November, 1940) available at 25 cents each postpaid. If you were unable to secure No. 1 at the time of publication, send for it now and make your file complete.

A. C. K.



Trains

Editors: A. C. Kalmbach, Linn H. Westcott, Willard V. Anderson

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Linn H. Westcott.

Eastbound freight leaves St. Regis.

This picture was taken last September from the embankment of the Milwaukee Road approach to its Clark Fork Bridge, which is just out of the picture to the left. On the right is the connecting track between Milwaukee and Northern Pacific. The box car commuter enjoys the scenery and fresh air. Below is one of the timber trestles on the 4 per cent grade above Mullan.

Linn H. Westcott.

service on the OW, but the day I was there the train was handled by steam. At and near Wallace can be seen NP Class Y switchers, really Consolidations, pushing strings of short cars up to the mines at Burke and Sunset. The NP used to have a line over to an adjoining valley north of Sunset, but this is now abandoned. Above Wal-

Linn H. Westcott.

Trackage rights are used over the Milwaukee.

This picture was taken from the same point as the large one on the opposite page. At the left is the connecting track from the NP, over which all trains to Mullan and Wallace must pass. The signal in left distance protects the Milwaukee main line, over which passes the *Olympian* and a daily local, as well as local and through freight trains. This is a portion of Milwaukee's electrified section between Avery, Ida., and Harlowtown, Mont. The power line at right distance feeds locomotives from Thompson Falls power plants.

lace the river valley is very narrow and twisted, passing by many large mills. Originally the railroad was narrow gauge to Mullan (a D. C. Corbin road), but when the NP worked west from the main line in 1889 it also wide-gauged this mining road and started construction from both ends. The two lines met at a point just west of the summit and the first train was run Dec. 24, 1890.

East of Mullan the valley widens into a glacial cirque. The railroad runs along the floor to the far end and swings back on the south wall for several miles only to turn again eastward for a third level. There are many old wood trestles on curves along this line, and near the top the grade increases to 4 per cent, suggesting the possibility that a tunnel might have been built later had traffic warranted it. There are four tunnels on the line; the longest is Brimstone Tunnel, 673 ft. Brimstone Tunnel is east of the summit, which itself is tunnelless.

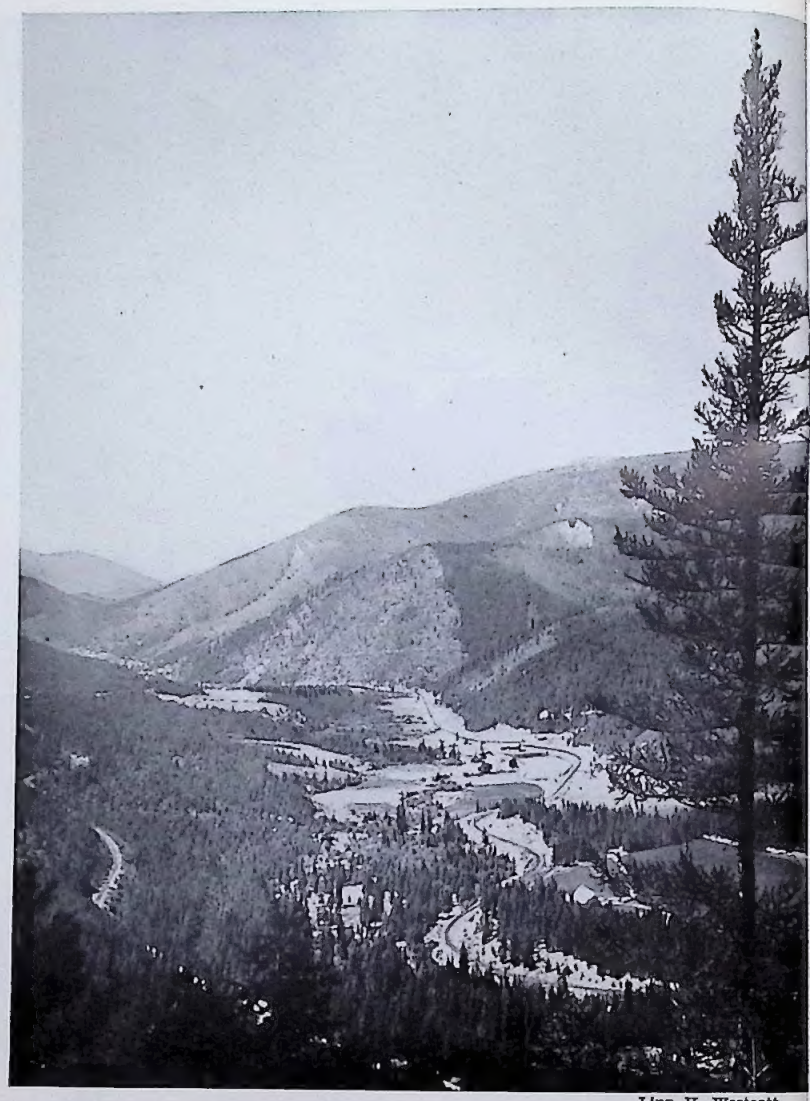
On the east slope the line drops quickly, by means of two hairpins, to the valley of the St. Regis River. Soon, above on the south, the main line of the Milwaukee Road comes into the valley.

To cut maintenance costs the Milwaukee and the NP use the same track from this point to St. Regis, although the abandoned grade of the NP can be seen in many places along the canyon. NP steam locomotives here pull their trains under the catenary of Milwaukee's electrified system. At St. Regis

NP trains get down to their own tracks again via a steep, sharp connecting track.

Between St. Regis and Missoula branch line trains follow the Clark Fork of the Columbia River (also called Hell Gate River since it flows through Hell Gate at Missoula) on the low level freight line of the NP. The old main line, in another valley farther north, is still used for through passenger trains.

The Wallace branch was built to tap gold and silver mines, chief of which were the Wardner, Nine Mile, Sunset, Gold Hunter and Canyon Creek mines. They paid out a wealth of 20 million dollars a year, and mining is still done on a large scale. The ore goes to smelters at Anaconda, East Helena, and Great Falls. The railroad also serves as a local freight carrier, with local and some through passenger traffic. Choice of locomotives is restricted by the steep grades and heavy Winter snows. Trains are about 15 cars in length, running three times a week. Daily passenger service, except Sunday, is hauled by either a Pacific or Ten-Wheeler.



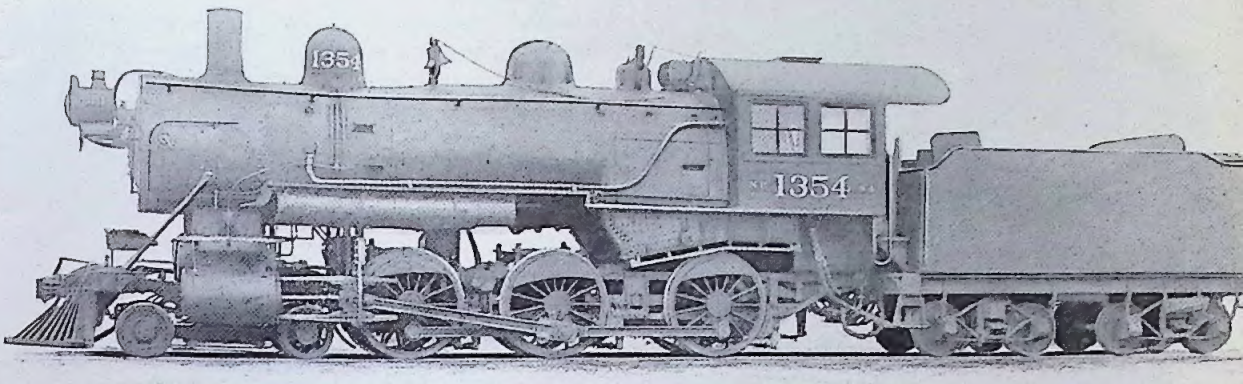
Linn H. Westcott.

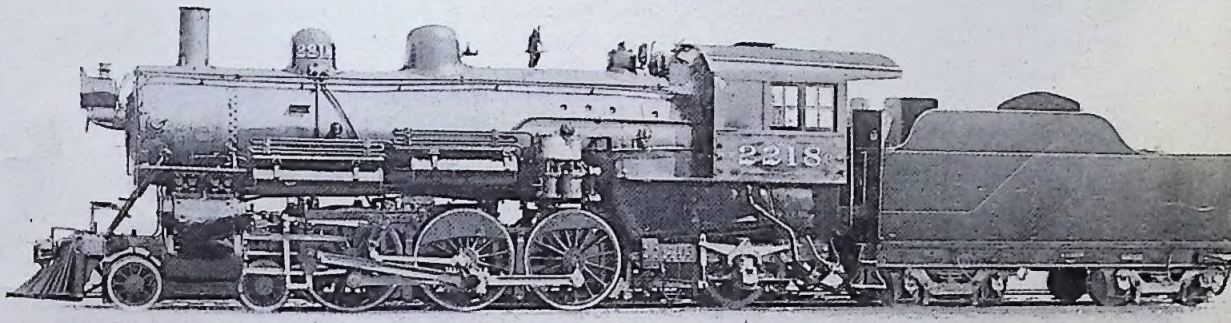
NP follows the valley of the Coeur d' Alene.

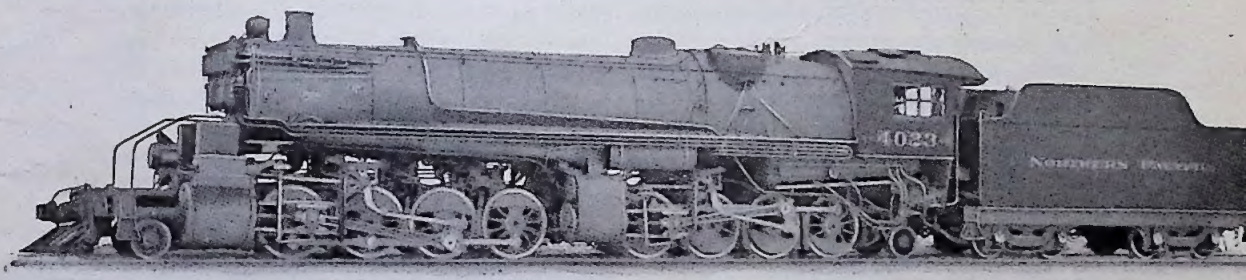
This is the first view seen from a westbound train as it crosses the Bitter Root divide. Two other levels of track may be seen below. Mullan nestles in valley to left; mines are in side canyons to right.

Specifications of locomotives used on Wallace branch of the NP.

Class	Type	Driver dia.	Cylinder d. & s.	Steam pressure	Tractive power	Valve gear	Weight on drivers
S-4	4-6-0	63″	21″ x 30″	200 lbs.	35,700 lbs.	Steph.	148,850 lbs.
Q-4	4-6-2	69″	23″ x 26″	200 lbs.	33,900 lbs.	Walsch.	147,000 lbs.
Z-3	2-8-8-2	57″	26″ & 40″ x 30″	200 lbs.	89,500 lbs.	Walsch.	418,600 lbs.
Y	2-8-0	55″	20″ x 34″	200 lbs.	42,040 lbs.	Steph.	173,300 lbs.







Courtesy Northern Pacific.

Rolling stock used between Missoula and Wallace.

Above are three of the four types of locomotive used on the Wallace, Ida., branch of the Northern Pacific. Class S-4, a Ten-Wheeler, is used on passenger trains and may occasionally be called for other duties such as light switching. Also often used on the branch for passenger trains is the Q-4 Pacific, a fairly light job as Pacifics go. Passenger service is daily each way except Sunday. Freight service is tri-weekly, going west on Tuesday, Thursday and Saturday, originating at St. Regis rather than at Missoula. Trains are rarely over 15 cars in length but nevertheless require a Class Z-3 Mallet to overcome the 4 per cent grades on each side of the summit. This is a genuine Mallet since the engines are worked on the compound principle with the low pressure cylinders on the leading engine. The ore car is used in the Wallace area to serve the mines, taking pay dirt to the smelters located at Anaconda, East Helena, and Great Falls, all over 250 miles away. It is a 50-ton car, yet only 22 ft. long. Class Y 2-8-0 type locomotives are used as switchers at Wallace.

Courtesy Northern Pacific.

Passenger Agent

★ Making friends by satisfying passengers is his job. Satisfied passengers ship freight too.

By E. L. Thompson.

Not so long ago, a boy wired his father in New York for money to come home. He had run away and was stranded in an inland city. In less time than it takes to repeat the instance here, the father contacted the New York passenger agent, who in turn called by company telephone to the station passenger agent in the other city. This was done since it was felt the boy would probably be waiting in the railroad station to buy a ticket. He was described and the passenger agent soon found him, delivering a ticket which had been paid for at the other end of the line. The ticket was endorsed so that the boy could not redeem it to secure additional funds, just in case he had such an idea in mind. In addition, the passenger agent placed him in the custody of the conductor on the train returning to New York. One hour from the time the father received the wire, the boy was headed homeward.

Were it not for the help of the passenger agent at each end of the line, such a situation as this would be much more difficult to handle. But this is only an incident from the passenger agent's daily routine. To tell the story right, let's start at the beginning: What are passenger agents?

A passenger agent is an employee of a railroad or of a group of railroads. Perhaps his best known duty is assisting you, as a traveler, in the preparation of itineraries. There are also many other helpful services which he makes available to the traveler. Suppose you have a sick relative who has to be moved to some distant point. You telephone the passenger agent and he comes to see you to make arrangements for the trip. When you reach the station someone is on hand to assist. If needed, there is a wheel chair available. In the Pullman car the berth has been made down in advance. The dining car steward calls at your berth, offering to bring your meals to you and your relative, and when you reach your destination still another representative of the railroad is on hand for your convenience.

When special trains are operated for parties, school movements, tours, etc., one and sometimes two agnts accompany the trains to look out for the welfare of the passengers.

Then there is the almost daily occurence of the passenger who forgets something. The conductor wires back to the passenger agent, who in turn calls the passenger's home. The forgotten article is soon brought to the station and the passenger agent has it on the next train, so that it reaches the destination of the passenger only a few hours later.

A more difficult problem was solved recently when a red cap found the unused portion of a round trip ticket, St. Paul to New York City, in Grand Central Terminal. He turned it over to the Grand Central ticket agent, who, seeing it was of Burlington issue, promptly phoned the Burlington district passenger agent in New York, who in turn wired the Burlington assistant general passenger

Courtesy Union Pacific.

agent at St. Paul, giving the ticket numbers. Through the numbers the sale of the ticket was traced to a young lady living with her parents in St. Paul. The home was called and the girl's mother was informed of the recovery of the ticket. The first inkling the young lady had that she had lost the cardboard was when she received a telegram from her mother telling her that, if she would go to Grand Central Terminal and identify herself, she could reclaim the ticket.

These are cases taken at random to show that the passenger agents on a railroad are more than just mere salesmen. Through their assistance under normal conditions, as well as when emergencies arise, they are daily performing services to the traveling public which are frequently taken as a matter of course.

Probably the most common of the passenger agent's duties is the planning of itineraries. Perhaps you drop into the local railroad ticket office to inquire about taking a trip across the country and through some of the national parks on your vacation. When you ask the man at the information desk, he inquires as to whether you would like a passenger agent to assist you. Perhaps you knew there was such a person and perhaps not, but in any event you are certainly glad to have him.

He invites you to sit down and asks you what points you particularly wish to visit. Then he prepares your itinerary, suggesting the best routes, giving you the over all rate and the local Pullman fares. If you are making a side trip, he tells you whether it will be included in your ticket or how much extra it will cost. Perhaps you want to visit Yellowstone National Park and enjoy one of the four-day tours. After you tell him the many things you want to do, he tells you to drop in several days before you are to start on your proposed journey. Then you are gone, with no further worries about your trip.

You come back in due time, and the agent has every one of your tickets ready, including all of your Pullman accommodations, which means that you need not worry at any time as to whether you will have a berth. That is all handled in advance. Then he has your tour tickets for Yellowstone National Park all ready for you, as well as travelers' checks and insurance. Your entire itinerary has been typed for you, with full traveling

Courtesy Union Pacific.

All illustrations are scenes from one of Union Pacific's modernized city ticket offices.

instructions. All you did was tell the passenger agent where you wanted to go and he planned every detail for your vacation without added cost to you.

There are several different classes of passenger agents, headed by the *general passenger agents.* A railroad generally has two or three such officials, located at the more important and strategic points of the system. They have certain sections of the line under their jurisdiction. It is customary also to have such an official in the general offices of the railroad, to handle rates, tariffs, schedules, and the general routine work. General passenger agents report to the passenger traffic manager, who is the head of the passenger traffic department.

Directly under them come the *assistant general passenger agents,* whose duties are primarily the same. They are located at other large cities on the line, and likewise have a certain though smaller territory over which they exercise jurisdiction.

Then come the *division* or *district passenger agents,* located in most of the important cities, including such points as also have general and assistant general passenger agents. They have charge of the local solicitation and routine office matters.

Under direction of the division passenger agents come other local men, such as *city,*

station, and *traveling passenger agents*. Because many woman travelers are reluctant to talk over a trip with an unknown man, many railroads have provided *woman passenger representatives* in the larger cities. This has been found an excellent idea and each year such positions are being created at more points.

The station passenger agent's duties are probably closer to the traveling public than the others', for he is the man who aids crippled and ill persons, aged people and unaccompanied children; who reroutes your tickets and locates lost baggage, etc., when you are at the terminal. He is the man who must handle the passengers who arrive in not the best of humor because, possibly, they have missed a connection or are late for an appointment. In addition to all this, the station man sees that sufficient equipment is provided on busy days and generally looks out for the railroad's interest at the big stations.

The services of passenger agents are often placed at the disposal of people who do not ask for such services. How do the railroads know these people are planning to travel? The answer is simple. Tips are secured from many sources—newspapers, wires from other cities, by mail, and by telephone. As an example, a certain Pittsburgh gentleman is planning to speak at a convention in Chicago. The speech is mentioned in the Chicago newspapers, and the Chicago passenger office promptly wires the Pittsburgh office, which in turn telephones or calls on the speaker, offering to arrange his trip for him. Many times the railroad has called almost as soon as the man has definitely agreed to speak.

Regular contacts are established with the government departments, with important business firms, department stores, hotel and club porters, tour agencies and the like. The traveling passenger agents seldom work in their home city, but solicit off-line (out-of-town) ticket agents, and keep contacts the same as city passenger agents. All schools as well as professional and amateur athletic teams are checked regularly, since during the course of a year they generally make many movements, and in most cases quite a few tickets are involved. Even the funeral parlors are contacted, for every time a body moves two tickets are needed—one for the body and the other for the escort. At this

time it might be worthy of mention that the passenger agents do not receive any portion of the fare collected. They do not work on a percentage basis.

Just anybody could not be a successful passenger agent. A man is given a wide and varied training before being appointed to such a position. A pleasant dispositon is, of course, the essential necessity for anyone who comes in daily contact with the public, but the passenger agent must also have a ticket training and be a good salesman. Good men are honest with their passengers, for they know that the average person will always be taking another trip.

For instance, you are going to make a trip to Chicago and then to St. Louis before returning home. The particular railroad which is soliciting your patronage provides good service on the going trip, but on the return it is anything but convenient. Suppose the passenger agent does not tell you this. When you return home you are probably so displeased that you swear never to ride his line again. On the other hand, suppose he tells you that a competing line has better service on the return trip, even though it

Courtesy Union Pacific.

means losing a ticket for him. You return on the competing road, but you still look in a friendly manner on the passenger agent who planned your trip and you know that you can trust him to work out any trip you may take in the future.

The good passenger agent not only knows the schedules and services of his own and competing roads, but he is right up to the minute on railroad services in all parts of the country. If your trip is for business he can tell the best trains for getting places in a hurry, and if your trip is for pleasure, he can unerringly and without flipping an *Official Guide** page tell which trains run through the scenic portions of a route in daylight. Pullman accommodations regularly assigned to the *Cascade* or service between Washington and Baltimore are equally at the tip of the passenger agent's tongue. A tariff or rate book is a confusing thing even to a lawyer, who should know about confusing books, but to a passenger agent it quickly yields the extra charge via Cincinnati instead of the direct route, or the details of a side trip to Grand Canyon.

The quickness and assurance with which all these details of rail travel are quoted not only adds to the agent's efficiency but makes him more useful to patrons. Suppose you are a business man, used to getting the information you want quickly and concisely from a secretary who does the spade work. If, on a trip, you stop to get your own travel information, the intelligent attitude of the agent does much to impress you.

Every passenger agent is a public relations representative or goodwill man for the railroad. He is in constant contact with important business men, and makes it his duty to keep them friendly with his particular line. In turn they will, when possible, route their freight accordingly. After all, most of the real money in the railroad business comes out of freight revenues, and a satisfied passenger will almost always ship on the line he favors for personal use.

But in these respects the railroad passenger agent is more than a salesman, because he is trying to sell you something that you *need,* while the ordinary salesman is trying to make you *want* to buy something.

The next time you are planning or taking a trip, remember that the railroad provides passenger agents to assist in making your journey more comfortable.

**Official Guide of the Railways,* published monthly at 424 W. 33rd St., New York, N. Y. Single copies, $2; per year, $18.

On the Spot

PLUMS to the Milwaukee Road for going out after business it didn't have. The *Midwest Hiawatha* [see page 50] certainly set some of the boys on their heels between Chicago and Omaha-Sioux City! We wonder what the Burlington does with its excellent *Exposition Flyer,* now that it has an extra two hours to kill between Omaha and Denver as the result of its 8-hour schedule between Chicago and Omaha to meet the CMStP&P's competition. The Burlington certainly is on a spot, what with competition telling it to charge an extra fare on the *Flyer* if it does the Chicago to San Francisco run in less than 60 hours and the Milwaukee making it do it in eight hours to Omaha or else! The train averages 62.5 m.p.h. between Chicago and Omaha and only 42 m.p.h. between Omaha and San Francisco. And you fellows think running a railroad is easy!—*Hoot, Toot and Whistle.*

Frank Quin, 8414 88th St., Woodhaven, N. Y.

Home from the mountains: NYO&W.

Sunday afternoon on the New York, Ontario & Western brings this train of vacationists back to the city from the mountains of southern New York. NYO&W runs a train each way daily on the main line from Weehawken on the West Shore RR. tracks, Jersey side of Hudson River, to Oneida, upstate between Rome and Syracuse. Although there is only one branch line with passenger service, daily except Sunday from Walton to Delhi, N. Y., the most important branch is the coal hauling double-track line to Scranton, freight only. Engine 245, above, has 69″ drivers, 200 pounds boiler pressure, 30,400 pounds tractive force. It is Class U-1, built by Alco in 1904. Numbers of this class include 244 to 246, 250, 251, 253, and 256.

Mother Hubbard Locomotives

★ Wide fire boxes of anthracite-burning locos crowded the cab forward.

MOTHER HUBBARD locomotives are a vanishing breed. Typical of the many Eastern hard coal roads which once had hundreds of these two-cab engines, the DL&W has today scrapped or converted to single-cab jobs every last one. Other roads still have them in use, but even these will soon be gone.

James Milholland of the Reading was a locomotive designer of unusual ability who developed the first coal-burning passenger locomotive in America, and he seems to have been the first to get the idea of moving the cab forward. The earliest anthracite-burning engines used large size coal, and the smaller sizes, for which there were no markets, accumulated on the mine dumps. Plenty of air was required to burn this small waste coal, and fire boxes as then built, between the frames, did not have enough grate area. Milholland, according to a member of the Railroadians of America, conceived the idea of building a wide fire box placed over the drivers (they didn't have trailing trucks in those days), and this was known as the Wooten fire box. When he made the large wide fire box, which went right to the clearance limits, no room was left for the cab, and so it was placed ahead of the fire box and the fireman was given a small deck on which to work and a small, very small, second cab as protection from the weather.

The style spread until most of the hard coal

Frank Quin.

Jersey suburban cuts icy air.

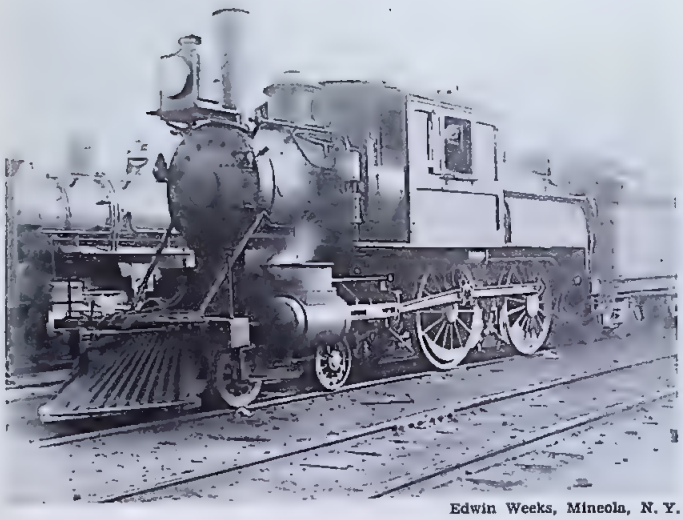
This Mother Hubbard Atlantic is speeding toward the ferry terminals at Jersey City. The Central RR. of New Jersey has many other types of locomotive on the Mother Hubbard plan. This one is Class P-6s, Nos. 590 to 595, 79″ drivers, 22″ x 26″ cylinders, 210 pounds steam, 28,433 pounds tractive force, built by Alco, 1917-1921. Besides these engines, CNJ uses many tank locomotives for its suburban service. These latter need not be turned since they are double enders.

High-wheeler built in Reading's own shops.

This Atlantic is a fine example of the Mother Hubbard design. It was built in the Philadelphia & Reading's own shops from company plans and represents the large fleet of engines with Wooten fire boxes to be found on the Reading. The class is P-5se, and includes locomotives No. 340, 342, 343, 348, and 349. Drivers are 86″ in diameter, cylinders, 23″ x 27″ diameter and stroke. Boiler pressure is 215 pounds, exerting a tractive force of 30,350 pounds. This type of engine was especially designed for fast passenger service.

John P. Scharle, 64 Vermilyea Ave., New York, N. Y.

roads, and some soft coal roads as well, were using Mother Hubbards. The large fire box was good for low grade bituminous and even such Midwestern roads as C&EI, Katy, and Rock Island went in for Mother Hubbards. Wide fire boxes today do not necessarily mean hard coal, but any fuel needing a large fire area to provide sufficient heat. Witness the Northern Pacific Yellowstone articulated locomotives, with their living room size fire boxes for burning lignite, an extremely low grade soft coal.



Edwin Weeks, Mineola, N. Y.

Erie old-timer, American type.

This engine is a much earlier design than others illustrated on these pages. It was built by Brooks at Dunkirk, N. Y., in 1880, rebuilt by Baldwin in 1896, dismantled at Dunmore, Pa., in December, 1920. The 4-4-0 had 68" drivers, 17½" x 22" cylinders working on 180 pounds of steam, and developed 14,268 pounds tractive force. Class number was D-5.

The Pennsylvania built three experimental two-cab Atlantics for service on the Philadelphia - Atlantic City run, but didn't like them, and they ended up on the Long Island. These Pennsy engines are worth more than passing note, as they had six-wheel tenders of the English type, with outside leaf springs and large spoked wheels. They were designed for anthracite coal, and carried 185 pounds pressure. Cylinders were 20½" x 26", a typical size for that day (1899), and the drivers were 80" diameter.

Most Mother Hubbards were of 4-4-0, 2-8-0, 4-6-0, and other trailerless wheel arrangements, although a number of Atlantics were built this way. Such as are still in use are seen on local passenger runs and way freight and switching assignments. Mother Hubbard locomotives built in the closing years of the last century also included some of the oddest wheel arrangements met with outside of toy train factories, such as the single driver 4-2-2 built by Baldwin in 1895 for the Philadelphia & Reading's fast Atlantic City service. This was a Vauclain compound with 24 tons on the 84½" drivers, 57½ tons total weight in working order, 13" and 22" x 26" cylinders, 200 pounds steam pressure.

As the domestic demand for hard coal increased it was easy to sell the smaller sizes for more than it cost to purchase soft coal for locomotive fuel. Most existing wide fire box engines are now fed a mixture of hard and soft coal. The percentage of each placed in the tender varies with weather conditions and the respective costs of the two kinds of fuel. With hard coal going out there is no longer need for the wide shallow fire box, and trailing trucks have come into use so that larger and deeper fire boxes can be used without interfering with the conventional cab.

It is said that enginemen complained about the safety of Mother Hubbards, inasmuch as the engineer and fireman were separated. Certain it is that the fireman's job was no sinecure, what with using the narrow catwalk between the two cabs and firing on a relatively exposed deck. To offset this was increased visibility, the cab being so far forward. This helped especially in suburban service. If one were going to ride a locomotive the left side of a Mother Hubbard was the best vantage point.

Just where the name Mother Hubbard originated is hard to say. Some say it was from the skirt effect of the Wooten fire box. The genus is better known by the incorrect term Camelback. A Camelback is a locomotive with cab on top of the boiler, and the original Camels were built in the 1840's by Ross Winans for the B&O. A Mother Hubbard has the cab *astride* the boiler, not on *top* of it.

Frank Quin.

There are no more cab-in-center engines on the DL&W.

Once a Mother Hubbard, this Ten-Wheeler now pulls passenger trains through Jersey hills and meadows. The engine is No. 1010, Class 8, of the Delaware, Lackawanna & Western. Sister engines are Nos. 1008 and 1014. This locomotive has 69″ drivers, 23″ x 26″ cylinders, 200 pounds pressure, 33,900 pounds tractive force. It was built at Schenectady in 1905. This scene was taken near Paterson, N. J., in the Winter season.

Ten-Wheeler on the CNJ.

Here is another Jersey Central commuter train headed by a Hubbard. Engine specifications: Class L-6as; Nos. 755, 757, 758, 759; 69″ drivers; 23″ x 28″ cylinders; 210 pounds pressure; 38,318 pounds tractive force; built by Baldwin, 1928-1931. Not all Mother Hubbards are passenger engines by any means, nor are they restricted to the anthracite region. In the Midwest the Chicago & Eastern Illinois RR. has used this type.

Frank Quin.

Courtesy New York, New Haven & Hartford.

Only one of 10,000 such scenes.

Five thousand cars of gravel, stone, and rip-rap were deposited in the fast fight to open the main line of the New Haven when the great hurricane struck New England on Sept. 21, 1938. The waves washed out, twisted, or covered 75 miles of track on this line alone. Above, workmen have shifted the track into proper alinement and are now dumping ballast so that the rails can be raised to grade. Other New Haven illustrations on the next few pages continue the dramatic story.

Keeping the Line Open

★ **The railroads, more than any other private enterprise, strive to maintain service and give relief in major disasters.**

*By Edward Hungerford.**

A CUB reporter shouldered his way into a railroad superintendent's office. Outside, a late Winter's storm howled around the terminal; the morning was nipping cold, the air curtained with myriad snowflakes; a great railroad was making a desperate fight against the mighty forces of nature.

"My city editor wants to know what you folks are doing to get the line open," demanded the reporter.

The big superintendent swung in his swivel chair and faced him. It was a place where angels might well have feared to tread—a place surcharged with electricity of fight. The superintendent's mind was filled with the almost infinite detail of the fight, but he liked the cub reporter and greeted him with a smile.

"You can tell your city editor," he replied slowly, "that it is as much as a man's job here is worth for him to think that the line is not going to be opened. I'd fire him if he as much as thought that it was ever closed. We don't die. We fight. It's a hard storm, sonny, but we make muscle in storms like this. We don't *get* the line open, we are *keeping* the line open. D'ye see?"

In that the big superintendent had sounded one of the biggest principles of railroad operation.

The line must be kept open. That slender trail of two rails, stretching straight across the open land and writhing and twisting through the high hills, is a living organism. The railroad is no mere inanimate organization. It is a right hand of the nation's life; it is life. The railroad is like a great living thing, its many arms reaching long distances back into the land. You cannot cut the living arm and then bring the body quickly back to pulsing life.

Just so the railroad arm cannot be severed —the line must be kept open. Strange things may come to pass: the right of way may be littered with the wreckage of trains, brought together through a defect in the physical machine, or the human; unexpected floods of traffic may seek to overwhelm the outlet; in Spring the power and might of flood may descend upon it; Winter's storms may seek to paralyze it; still, always the railroad must be kept open.

"We can't lie down," the superintendent explained to the cub reporter. "We've got to get the traffic through. Do you know what it would mean if we were to follow the path of least resistance today—to let this storm get the best of us? Let me give you an idea in just one thing: There's food coming in here in trainload lots every night—fresh meat, fresh vegetables, fresh milk. Folks would go hungry if we were to say 'We can't, this storm is a gee-whillicker. We give up.'"

To keep the line open, the railroad affords every sort of protective device; it trains men for especial duties. Unlike most other forms of transport, it cannot depend upon tax-paid governmental assistance; it must furnish its own organization, to meet all kinds of emergencies.

Take the matter of wrecks, for instance. The railroader does not like to think of wrecks, but his methods for removing them must be prompt and thorough: the line must be kept open. In spite of the increased speed of both freight and passenger trains in recent years, there has been a decrease in number of wrecks, but still, the wrecking equipment must be on hand.

These wrecking trains are the emergency arms of railroad operation. They stand, like the apparatus of a city fire deparment, at

*Especially revised for TRAINS by Mr. Hungerford from his now out-of-print book, *The Modern Railroad*, and also used by kind permission of *Saturday Evening Post*, in which the original material appeared prior to publication in book form. Copyright by Curtis Publishing Co.

every important terminal or division operating plant, awaiting summons to action. You may see the wrecking train at almost every big yard, waiting on a siding which has quick access to the main line tracks. It consists of from four to six cars—a tool car with all sorts of wrecking devices—replacers, blocks and tackle, extra small parts of car trucks for emergency repairs, and the like. There are more of these extra parts—axles and wheels and four-wheel trucks on a flat that is fastened to the tool car; and if this wrecking train has a couple of miles of heavy traffic line to serve, there may be three or four flats with tools and spare equipment. You cannot have too many of those in a big wreck. The wrecking train is sure to have a crane—a big arm of steel, compressed to come within the slim clearances of bridges and of tunnels, but capable of reaching down and tugging at a 200-ton locomotive with almost no effort whatsoever. And quite as important as the crane is the cook-car—generally some old-time coach or sleeper descended to humble service on the road. The cook-car has a rough berth and a kitchen; and you may be mighty sure that there is a good griddle artist upon it. You cannot expect a wrecking gang to get into a 24-hour job without being pretty constantly provisioned while it is at work.

Only a little while ago, one of the officers of an Eastern trunk-line railroad and a member of one of the state railroad commissions were coming toward New York. The trip was in the nature of an inspection on the part of the state official, but as a matter of comfort and convenience to the two men, it was made in the former's private car. The comfort and convenience suddenly ceased while the two were still nearly 300 miles away from the seaboard. The road rested there for many miles in heavy country; its rails found their curving way in the crevices between high hills. It had rained steadily for a fortnight; the little mountain brooks were raging millraces. In the low flatlands of one deep valley lakes were being formed. There were long stretches where the four rails of the double-tracked trunk-line railroad lost themselves under the glassy surface of the waters. Up and down the valley trains were standing helpless between those lakes, their passengers fuming at the delay. Fast freights stood axle-deep in water; their title, for that moment, was an occasion for joyous humor. The comfortable, convenient trip of the railroad operating man and the railroad commissioner was at an end.

An embankment that the railroad had built for a branch down the valley was blocking the waters, and orders had come from New York to dynamite out that embankment. It would cost the railroad nearly $50,000 to destroy that half mile of track, but it might save the valley millions. There had been no hesitation on the part of the "old man"—the road's tried executive. That is a phase of American railroading not often brought to light.

Orders came that the engine hauling the special of the operating man and the railroad commissioner was to be taken for a work train down at that damming embankment. That's the way with railroading. When the clattering telegraph keys sound the note of trouble, even that mighty soul, the chairman of the board, may find himself laid out at some jerkwater junction while his pet engine goes into service with a wrecking train. But the chairman of the board, whose time is real money, offers no protest. He knows that to block the main line costs his road $250 a minute for the first 60 minutes; that the figure doubles and trebles in the second hour; in the third his auditors may check off $1000 a minute, at the least, as the cost of a blocked railroad. No wonder that they insist that it is "keeping the line open."

Before the engine of that special was cut off to go scurrying down to the embankment where the skilled workmen were making preparations to dynamite away a half mile of track, the operating man lifted his hand. He had, like any trained railroader, been listening to the clattering telegraph key.

"They've come away without their cook—those wreckers," he told the gentleman who regulated public utilities. "I think I'll go down with the 'eats.' There's an old hotel across from the railroad track down at the next station, and the landlord, Uncle Dan Hortley, will fix me up."

"I'll go with you," said the state official. "I want to get my finger in the pie."

So it came to pass that they both went, the private car stopping at the little hotel long enough to get in an overwhelming supply of bread and ham. As they whizzed through the scene of trouble all hands joined at making sandwiches.

Milwaukee rotary snow plow cuts through heavy drifts.

Rotaries can throw the snow to either side of the track. It may take an hour to work 60 ft. in a heavy, packed drift. The Milwaukee Road plow shown here has backed up to get a start for a fresh onslaught. The train consists of a plow, a locomotive, a crew car, and two cabooses.

Courtesy Chicago, Milwaukee, St. Paul & Pacific.

"Butter them on both sides," said the railroad commissioner.

"They're better with the butter on one side," insisted the operating man.

The commissioner was not used to back-talk from railroaders, no matter how high their office, and he stuck to his point.

"Both sides," he insisted.

"One side only," retorted the big operating man.

"The commission has closed its hearing and issues an order for both sides."

"The railroad appeals."

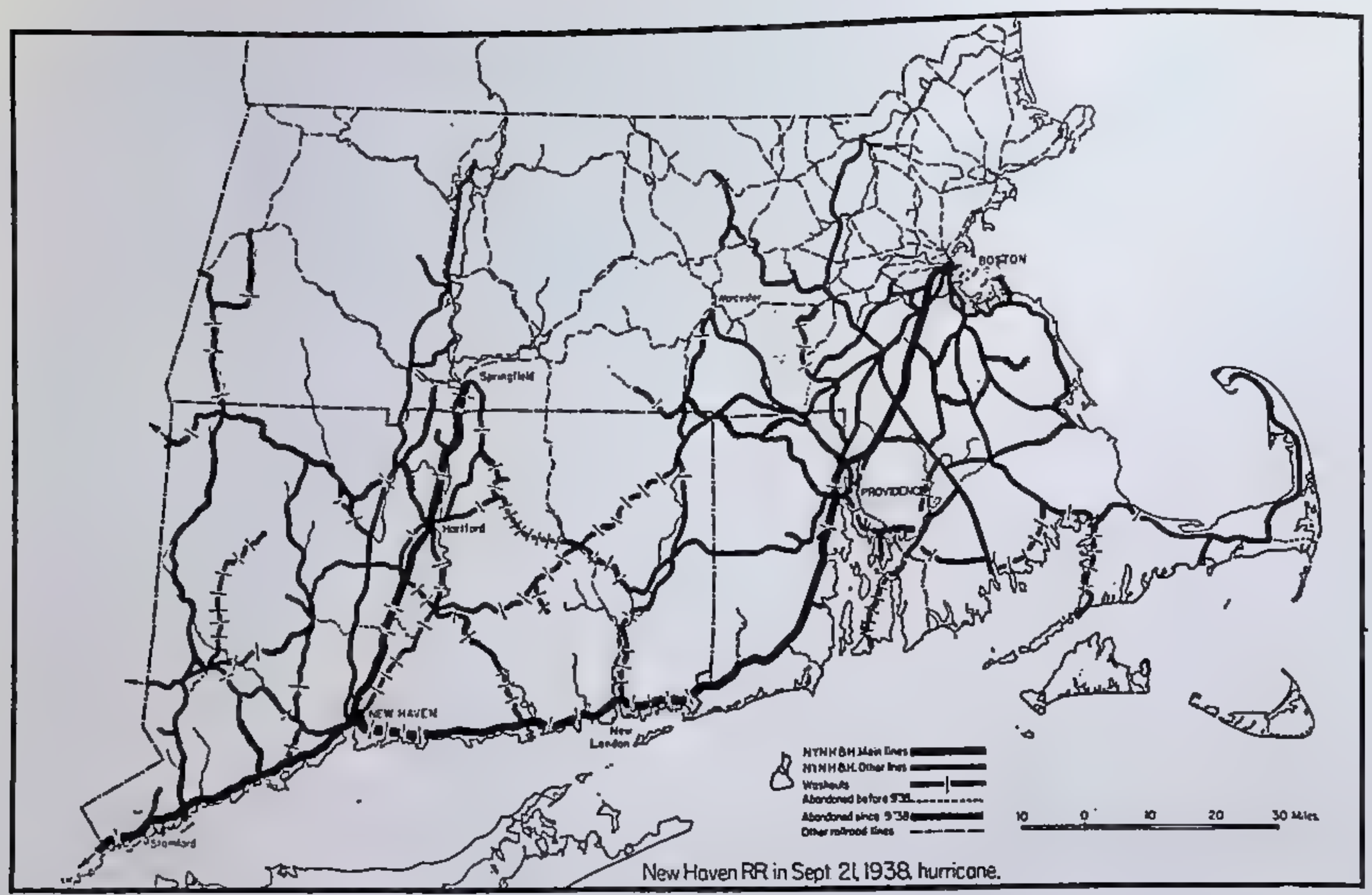
But the commission won its point—as it almost always does—and the hungry men down at the doomed embankment ate their sandwiches with a double thickness of butter.

Sometimes a refrigerator train comes under the skilled hands of the wreckers, and the cook-car may have more than an abundance of good material right at hand. Beef, chickens, milk—all manner of edibles have been spilled like waste along the right of way, and there have been no regrets among the men of the wrecking boss's crew. Once, a speeding cook-car hurrying to the relief of the laborers upon a wrecked meat train that had tried to go tangent to a mountain curve, brought reinforcements in the form of ham sandwiches. The wreckers were pretty hungry, but it needed all their hunger to tackle those sandwiches. The meat train had been filled with ham; it had caught fire. Somehow, three or four hours of work hauling out smoked hams gave no appetite for sandwiches of the same sort.

Tank cars go swimming in Ohio River near Cincinnati.

The Ohio is one of the most frequent flood bearers, often tying up a majority of the trunk line systems. Ohio floods sweep through a valley over a mile wide extending from above Pittsburgh and contributing to the extensive Mississippi floods. These cars are floating above B&O trackage near Cincinnati.

Courtesy Baltimore & Ohio.



Linn H. Westcott.

New Haven was an abbreviated system on hurricane day.

Thirty-one bridges and over 200 culverts were washed out on the New York, New Haven & Hartford in the 1938 storm. Here is a map of the system showing the gaps in the line. The condition of other roads in the territory was equally severe. In 13 days rail service was restored between New York and Boston via the shore line, but passenger service was possible on the third day by "ferrying" across some gaps.

On main-line divisions, where traffic runs exceedingly heavy, a locomotive is available, steam up, for the wrecking train. Even on side-line divisions the call for the wreckers will bring the fastest and best engine out of the roundhouse, no matter what her train assignment may be. Things on the railroad stand aside for the wrecker. Limiteds paw their nervous heels upon sidings while she goes skimming up the line—all timetable rights are hers from the moment that she goes into service.

A wire from the seat of trouble brings her into service.

"Second four-twelve in ditch at Grey's Bridge. Broken rail. Engine and two cars derailed. Both tracks blocked. About four killed and injured."

That wire has itself had the right of way. When "W-K, W-K, W-K" comes persistently calling over a railroad wire, every key closes. The call "W-K" is the "C-D-Q" of railroading. It is as much as any operator's job is worth to ignore it.

When a dispatch of the sort just cited comes into headquarters, things start to move. The dispatcher, if he is after the manner of most dispatchers, turns to his telephone and calls the yardmaster to order out the wrecking crew. There is no more excitement in his voice than if he were ordering out any ordinary special. He rings off quickly, calls up in turn the superintendent, trainmaster, perhaps the division engineer, the claim department. If there is a fatality list—the wreck one of those fearful things that sometimes show themselves upon the front pages of the newspapers—he will get the hospitals and the doctors. The list of surgeons who are allied to the railroad in every town on the division hangs above the dispatcher's desk.

But even if the wreck is one of those minor smashes that are bound to come now and then on the best of lines, the dispatcher must keep his head. As he catches up his telephone to get orders to that wrecking boss out at the roundhouse, his assistant takes instant notice of the wreck, first notifying the stations on

either side of the accident to set danger signals against all trains. After that, while the dispatcher himself is busied with details, the assistant arranges to handle all traffic. If both tracks are blocked, there are plans to be instantly made to forward the fast through trains by detouring them over other lines of railroad. The assistant dispatcher, wishing to know how long he can afford to hold his heavy traffic (remember that the line must always be kept open), wires the nearest station for additional details. Most of all he wants to know how long the tracks will be blocked. Perhaps before he gets his wire through there comes a second message from the wreck, giving more facts about it. By means of code, great detail can be given in a short wire; headquarters gets a clear understanding of the trouble. After that the wire chatters constantly; there are a thousand orders to be given, a thousand details to be arranged.

While the first of these wires are beginning to swing back and forth the dispatcher will hear the wrecking train, pulled by the neatest and swiftest bit of motive power from the big roundhouse, go scurrying by and down the line. The road is cleared. Everything stands aside, and for weeks after, the stove committee in every roundhouse on the division will be telling how she made the run.

They don't talk about the run when they get to the accident. They pile off the train and get to work quickly. Every man is a trained wreck worker, as a fireman is trained to his peculiar business. In such hours as they are not out on the road, the wreckers are repairers of cars. It keeps them busy during the long seasons when the line is lucky and has no wrecks, and it gives them the skill with which to tackle the difficult problems that confront them after a smash. By day these men—8 or 10 or 12 of them to a crew—work in the yard close to the waiting wrecking train; by night the telephone at the head of the bed of each man will bring him quickly.

Big hooks tackle the end of a crippled New Haven bridge.

Here are many of the devices used in railroad reclamation work: locomotive crane, work train, flat car loaded with trucks for stranded cars, compressed air engine (for riveters, air hammers, and divers), timber work and track jacks. Water rushing into an inland lagoon washed out the abutments supporting this girder bridge. The damage to the bridge was minor, but an inspection was made as a safety precaution.

Courtesy New York, New Haven & Hartford.

Tangled rails and wire on Shore Line.

Five million feet of telephone and telegraph wire were strewn across Connecticut right of way. In the foreground linemen attempt to untangle the knots beside track shored up with stone. Beyond, track workers prepare temporary ballast, and in the distance is track which was washed onto the beach.

Courtesy New York, New Haven & Hartford.

"How do you handle a wreck?" we once asked an old-time wrecking boss, a man grown gray in keeping his line open.

"I don't know," was his frank response. "I've probably handled a thousand wrecks—perhaps more—but I have yet to see two that were the same. Different cases demand different treatments. Any surgeon will tell you that; and you know," this with a bit of a laugh, "we are the surgeons of the steel highway.

"We've only one rule that is absolute, and that rule is to take care of the folks who are hurt in the first place, and in the second place to get the line open. If it is multiple-track line—two or three or four tracks in operation—and the muss is sprawled over the entire right of way, we get a through track working in shortest interval. When we can wire 'No. 2 open' or whatever it is, the dispatcher down at headquarters will catch the stations where there are crossovers and he'll be handling his first-class traffic of all sorts past us while we'll still be sticking the arm of the old bill crane down into the smash."

The arm of that crane can lift a freight car—if there is enough freight car left to lift—off the rails and into the ditch in almost a twinkling. Two of these great cranes can grab a wounded locomotive and put her out of the way. The wrecking trains on a first-class road are kept along the line in profusion. Each is supposed to cover a territory of 100 miles or so in every direction from headquarters, and a sizable smash will bring two or more to work in unison. Two wrecking cranes working into the remnants of a head-on collision from each direction can accomplish marvels. They will come together finally at the chief test of their strength, the point where two locomotives have firmly locked horns in dying embrace. That is a point that finds the nerve and ability of every wrecking boss.

Clearing a wreck may be a tedious business.

There is a deep sink on the parade ground of the Military Academy at West Point that is a monument to the nastiest railroad wreck from the point of view of time, that the Eastern railroaders have ever known. Just under that parade ground the West Shore RR. passes through a long tunnel. On an October night more than 50 years ago, the Chicago and St. Louis Express of that railroad was

Courtesy Norfolk & Western.

Most flood waters affect bridges, but do not cover much land.

Last year Norfolk & Western's Abingdon Branch was the focus of a thunderburst. In 55 miles an equal number of bridges were washed out. This is Bridge 50, which was washed 15 ft. to the left, repositioned by a bulldozer, crane, and two motor cars.

slowly poking through that bore when a portion of the roof of the tunnel collapsed. It buried itself between the rear part of the baggage car and the forward part of the express car and the train came to an abrupt stop.

Engineer William Morse saw in an instant the damage that had been done. He cut loose from that penned baggage car and made a record speed up the line to Cornwall, the nearest station. From there he sent a wire post-haste to the dispatcher up at Kingston, then the headquarters of the line.

"Train caught by collapse at West Point tunnel," that dispatch read in part. "Only engineer and fireman escaped."

They began to get their hospital train ready at Kingston, notified Newburg to get all the doctors in sight and hurry them on a special to West Point. The chief dispatcher went through the worst quarter hour of his life. He began to call Weehawken, the southern terminal of the line. Weehawken wires were all busy, and he could not cut in there.

Weehawaken wires were busy getting reports from Conductor Sam Brown of the Chicago and St. Louis Express, who had come running out of the tunnel to the West Point depot.

"Wire headquarters," he shouted to the agent, "that we've run into an avalanche. Morse and his fireman are crushed under the tunnel roof."

And they began to get the wreckers busy down at Weehawken.

When the chief dispatcher up at Kingston finally got Weehawken, they told him about Sam Morse's fate. The truth of the thing came to him in an instant. He laughed hysterically, and his assistant jumped up. The dispatcher's bad quarter hour was over. He jumped to his telephone, caught the yardmaster with it.

"We won't need that hospital train," he said. "There isn't a soul hurt."

And there was not. But there remained the worst railroad block on record. It was three months before they pulled the baggage car out of that tunnel, and then they had to use dynamite. After that it was found necessary to line the entire bore with solid masonry. That was an accident that might not have been so lucky on repetition.

Enough of wrecks. They are not the only test when it comes to keeping the line open. Sometimes a crippled wire service may be quite as effective. In many a storm severe wind and sleet level mile after mile of telegraph poles, sometimes dropping them across main-line tracks in the dark. On the inauguration day of President Taft, years and years ago, a heavy storm did just this on the lines leading into Washington. Thousands of militiamen and excursionists never reached the inauguration at all.

An old-time Erie man remembers wire troubles of a different sort. It was in his salad days, when he was serving as assistant superintendent over the Meadville, in the western part of Pennsylvania. They had but one telegraph wire for railroad purposes on the division then, and one night it grounded.

Wreckage and repairs on New Haven line. A ship was washed onto the tracks. Damage worse than a Blitzkrieg.

Upper picture: One track is already open. Work train stands on second track while last touches of temporary ballast are placed. Although wires are in place, telegraph poles must still be plumbed. Below: Main line tracks at right of photo have been opened and a temporary shoo-fly allows trains on left track to pass around the vessel. The gondola car brings rock, and then takes away driftwood.

Courtesy New York, New Haven & Hartford.

Keys were silent; the road might just as well have had no wire at all.

The assistant superintendent started that evening with two linemen on a hand-car to find that ground. They went miles from Meadville, and every test showed the wire working. Finally they came to a deserted little depot at a crossroads and the railroader, lifting his lantern high against the window, verified his suspicions: the careless agent had gone home and left his key open. The superintendent broke open the window, climbed in, removed the telegraph set, placed it in his overcoat pocket and closed the circuit. He knew that he would hear from the agent on the morrow. He did. Word came by tedious mail, a formal report on the road's yellow stationery.

"Station at A—— burglarized last evening," that formal report read, "and agent's telegraph set, best pants, and $10 taken."

The real test of keeping the line open comes when Winter descends upon the land, when the heaviest freight traffic of the year comes, together with those forces of nature that sweep off the Summer joys of railroading. The mighty battles of the Western transcontinentals with the snows of the Rockies have long been known, their miles of snow sheds making safe crawling bores for through trains under the snow banks; and the avalanches of the mountain sides are as familiar to the tourist as the Great Salt Lake or the wonders of the Yellowstone. Every railroader, east and west, knows full well the hazard of mountain line in the depths of a treacherous Winter.

There is a snow belt extending around the south edge of the Great Lakes that annually gives the Eastern railroad men a good opportunity to sympathize with the Westerners. Long years ago a little railroad reaching north in this belt from the main line of the New York Central became discouraged in the all but hopeless task of keeping its line open. It had been a hard enough battle to find the rails of its main line from Rome to Watertown through one blizzard crowding upon the heels of another. There had been 10 days when Watertown was entirely cut off from the world to the south of it. But that little railroad owed some obligations to its chief town, and it kept at its brave efforts although every night the fresh wind blowing down from Canada across Lake Ontario filled

the long miles of railroad cuts, and nightly erased all trace of rails. But there was a branch from Watertown to Cape Vincent run at a dead loss throughout the entire Winter, and in that hard Winter the railroad gave up the branch and hired a liveryman to take the mails in his cutter over the country drifts. It was one of the few instances on record of a railroad ever having given up the fight.

After the railroad had been abandoned a fortnight a delegation of citizens from Cape Vincent drove to Watertown and there confronted the general manager of the line. They made their little speeches, and those were pretty hot little speeches—hot enough to have melted away one good-sized drift.

"When are you going to cart that snow off our line?" finally demanded the spokesman of the Cape Vincent folk.

The general manager looked at the delegation coolly, and lighted a fresh cigar.

"I'm going to let the man that put it there," he said slowly, "take it away."

And he did. It was 32 days before a railroad engine entered Cape Vincent from the time that the last one left it.

In recent years, that nasty stretch of railroad line has kept the railroaders still busy. At one time it was blocked for six long days while a force of snow fighters and a battery of plows forced their way into the drifts. And while the superintendent up at Watertown grew nervous, then desperate, there came the worst blow of all: the telegraph wire no longer brought news from the front.

Afterwards the super knew the reason why. His trainmaster was at the front with plows and the hungry, tired, straggling men. The trainmaster was nervous, too, wearied explaining to his boss. He remembered Dewey at Manila, and he cut the cable! He lost sight of the outer world for long hours, for days, for nights, until that January evening when he brought his battered snow-fighting force triumphant into Richland Junction.

When a big road whose rails rest through a snow belt finds the Winter clouds blackening, it puts on its fighting armor. Every man at headquarters sticks by his desk. The superintendent will get bulletins from each terminal and important yard every hour, perhaps oftener. Those bulletins will give him exact information—the amount of motive power ready at each roundhouse; freight congestion, if any; amount and direction of wind; cloud and snow conditions.

In other days the signal for an oncoming storm was followed by quick orders from headquarters to pull off the snow freights. Traffic was quickly cut down to passenger and perishable-freight trains, and, if the blizzard grew bad enough, the perishable-freights were run in upon the sidings. The railroad concentrated its motive power upon the passenger trains and the plows. Nowadays they do it better. Not that the old fellows of the last generation were anything less than prize railroaders, for, remember, they did not have the locomotives in those days that even side-line divisions possess nowadays.

So today the superintendent can growl at the first of his men who even hints that a scheduled train of any class be sent upon a siding.

"We keep the traffic moving," said one of the biggest the other day. "We keep the line open. A train every 30 minutes over our rails will do more toward keeping them usable than a rotary going over them after a night's inaction.

"So when she begins to blizz, we just fall back on our roundhouses, that's all. We cut our local freights down to 2500 tons, then to 2000, 1500, 1200, rather than send them into shelter. We tackle our through freights in a like proportion, and while we are cutting off cars we are adding power. Everything that goes out of this yard will be double-headed as long as there is danger in the air. There will be two engines to a passenger train and ahead of each a rotary, with two or three locomotives to push her. You see the value of reserve motive power, don't you? Why, we have half a dozen extra engines trying to gather rust over there in the roundhouse. They're worth their weight in gold in a pinch of this sort, though when they're done with a week of snow fighting, they're fit candidates for the shops."

A rotary plow has no powers of self-propulsion, but the mighty engine within her heart, driving the shaft of her great cutting wheel, has the power of three locomotives. That cutting wheel approximates the width of a single track in diameter. It will bore into a solidly packed drift, 12 or 16 ft. in height, suck in a great volume of snow, and then

throw it—as a fire engine throws water—through a nozzle 60 to 100 ft. to the right or left of the line. The nozzle is close to 3 ft. in diameter, and the stream that it throws will bury a small barn. The man who sits in the lookout of the rotary controls the nozzle, changes it from side to side so as to avoid buildings.

These rotaries are giants. Where the great flange or wing plows—the ordinary snow-fighting artillery of a railroad—fail, they come into service. Theirs is ever a mighty task to perform. I have seen a rotary spend 60 minutes in going 60 ft. through a heavy snow drift, a drift 3 miles long and 20 deep. Snow can drift, and wet snow can pack, pack until you almost begin to think of using dynamite as a last resource.

Three days of such snow fighting would completely weary the ordinary man. Up in the snow belts, they are likely to get a hard

Pennsy snow-, Espee fire-fighters.

The snow scene is in Pennsylvania Yard at Cadillac, Mich. It is not a major catastrophe, just routine cleaning of switch points that happens every Winter month. Southern Pacific fire-fighting trains (below) are famous public servants.

Top courtesy Association of American Railroads; bottom courtesy Southern Pacific.

Courtesy Baltimore & Ohio.

Railroad rescue at Louisville.

Railroad employees help flood refugees get into Baltimore & Ohio baggage cars to be taken to Indianapolis on a Monon Route train. Below, a landslide typical of many washouts on the Ohio River. This is on B&O right of way at Cincinnati.

storm every week from December to March, and that atop of the heaviest traffic of the year. It is the sort of fighting that marks the fine-grained timber of a man; that sends him down to headquarters in some metropolitan city along the seaboard, to fight the weightier battles of traffic and of operation, which are unending within and between the mighty railroads of America.

Sometimes the battle to keep the line open is fought close to a busy terminal. Here, before you, is the division superintendent of one of the great lines entering Jersey City. Let him tell you of the nasty storm one Christmas night, a storm that laid low all street transportation in every city along the North Atlantic seaboard. He will tell you how it was the first Christmas that he had spent with his family in seven years; the first holiday in three. He lives in a little suburban city within the 20-mile radius of New York City Hall, and in his bedroom is a telephone connected with the division's train wire by which he can keep in touch with the railroad in the early morning and late at night.

Over the wire that Christmas night, the superintendent gave orders. There was snow in the air at dusk when they finished their late afternoon dinner; by 8 o'clock he had ordered the flanges (plows) on all his regular road engines. Along the entire line orders had gone to keep a sharp lookout for trouble. The superintendent turned into bed at 10 o'clock, hoping for a clear Winter's sky in the morning.

He turned into bed but not into sleep. A telephone message from the agent down at the depot of the suburban city made him sit up wide awake. The storm was gaining. They were beginning to get trouble reports down at headquarters. The superintendent turned out of bed and began dressing. He cut in on the dispatcher's wire and began giving orders.

He caught his trainmaster at the neighboring town and told him to meet him on No. 495, the last train into Jersey City that evening. He turned from the train wire to the local telephone and ordered the depot agent to hold the 11:42 until he arrived. With difficulty he drove through gathering drifts to the station.

When that superintendent came puffing into

his office in the Jersey City terminal it was 1 o'clock of a blizzardy Sabbath morn. He dropped into a chair beside his chief dispatcher and took the entire situation in hand. Things looked pretty bad from every point of view. From up in the foothills came reports of discouraging nature; trains were losing time, they were having added trouble every hour in handling switches and crossovers. At the terminal the switches were a most prolific source of annoyance. The intricacy of the interlocking system was being bothered by ice freezing about its exposed working parts.

The superintendent was perplexed, but he did not show it. He kept lighting cigarets and throwing them away half smoked. And all the while he was sending out orders over his wire. If a narrow strand of steel, stretching for miles through darkness and through storm, could carry infectious courage, that wire carried the superintendent's courage out to every far corner of his division through those early hours.

"Keep at it," was the tenor of his message. "Keep everlastingly at it."

And between times he was planning how to help them to keep everlastingly at it. Men were summoned to report Sunday morning at the shops—they might need some quick repairs, and it is a matter of record on that division that a locomotive has been torn apart, entirely overhauled and placed in service again in 24 hours—others were ordered to stand by important switches against breakdowns in the interlocking.

There were special problems in plenty to be considered, a new one arising every hour. One of them will suffice to show the measure of that superintendent's problem that night.

Up in a narrow pass between overhanging hills a much delayed local, with a light road engine, was still strugging to get the Christmas celebrants home. It was a hard proposition; and just a block back of the suburban train was chafing the *Midnight Express* through to Chicago—one of the road's best trains. The superintendent saw in an instant that his main line stood in imminent danger of being blocked. He caught Middleport, the station ahead, and ordered the struggling local sidetracked there for a moment.

"I want to get that *Midnight* with her big engine ahead of the local," he explained to his dispatcher.

But the towerman at Middleport said that he could not move the siding switch there; it was packed in with ice and snow.

"Tell him to get a pickaxe and shovel and get in at it," said the superintendent.

"He says that it's 20° below up there; they've swiped his shovel, and he hasn't anything but a broom," the dispatcher returned.

"A broom! Tell him a broom's a Godsend. He can sweep with the one end and pick with the other."

Eight times that towerman tried there in the midst of the storm to open that switch and eight times he reported failure. Eight times the superintendent kept at him with his kind persistence, and the ninth time they reported that the *Midnight Express* with the best type of motive power on the division was ahead of the small engine on the local.

And while the superintendent struggled at the far end of a telephone wire with that towerman, there were a dozen other Middleports, each with its own different and equally difficult problem. Each required quick, intelligent solution. He solved each. The line stayed open. The super stayed at his desk.

All that Sunday it snowed, and all that Sunday the superintendent was at his desk. He did not know the passage of the hours; the train wire loudspeaker held his attention riveted. He worked all Sunday night and into Monday morning. There were 200 suburban trains to be brought into the terminal on Monday morning, and the commuter is a fussy soul about his train being on time. The superintendent knew that, and he was ready. He had extra men at the switches in the terminal yards, took particular pains to have snow swept from the platforms of even the lowliest suburban station.

The trains came in on time that Monday morning, all save one. On that one train the regular fireman had been snowbound at his home upon the mountainside. They had to put on a green man to fire the engine—a rawboned lad just off a freight. He made slow work of it, and the train was 14 minutes late. That was the only exception to a clean record, a record made possible by long hours of work.

"They ought to have been proud of that fight," you say to the big boss. He grins at your ignorance.

"Proud?" he laughs. "They raised hell with me because we had 387 laid out 14 minutes."

Now and Then -- Cripple Creek Short

On your next Summer trip to the West, stop over at Colorado Springs, ride the Manitou & Pike's Peak cog road to the top of Pike's Peak and back, ride the Midland Terminal through Ute Pass, and by all means get an automobile from the Train-Auto service to drive over the roadbed of the Colorado Springs & Cripple Creek District RR. for 50 miles to Cripple Creek. The roadbed was abandoned in 1923, but is now open, toll free, as a scenic highway called the Corley Highway. It takes you through nine railroad tunnels still blackened with engine smoke, over original railroad trestles and, best of all, through some of the finest mountain scenery in the United States.

The "Short Line," as it was often called, was unusual because it boldly clung to the mountain escarpment. For the first 15 miles you look over the plains as you climb ever higher on a 4 per cent grade. Below you is Colorado Springs and the Broadmoor Hotel. As you pass St. Peter's Dome and at Rock Creek the line makes an S curve that is almost a pretzel. Working westward to the summit, and on toward Cripple Creek, you pass through a number of beautiful mountain parks.

The railroad was built in 1901 as competition to the Midland Terminal RR. (still running strong) and the Florence & Cripple Creek RR., a narrow gauge line. As the mines worked downward many of them petered out and others suffered from lack of drainage. Cripple Creek is now almost a ghost town and very fascinating.

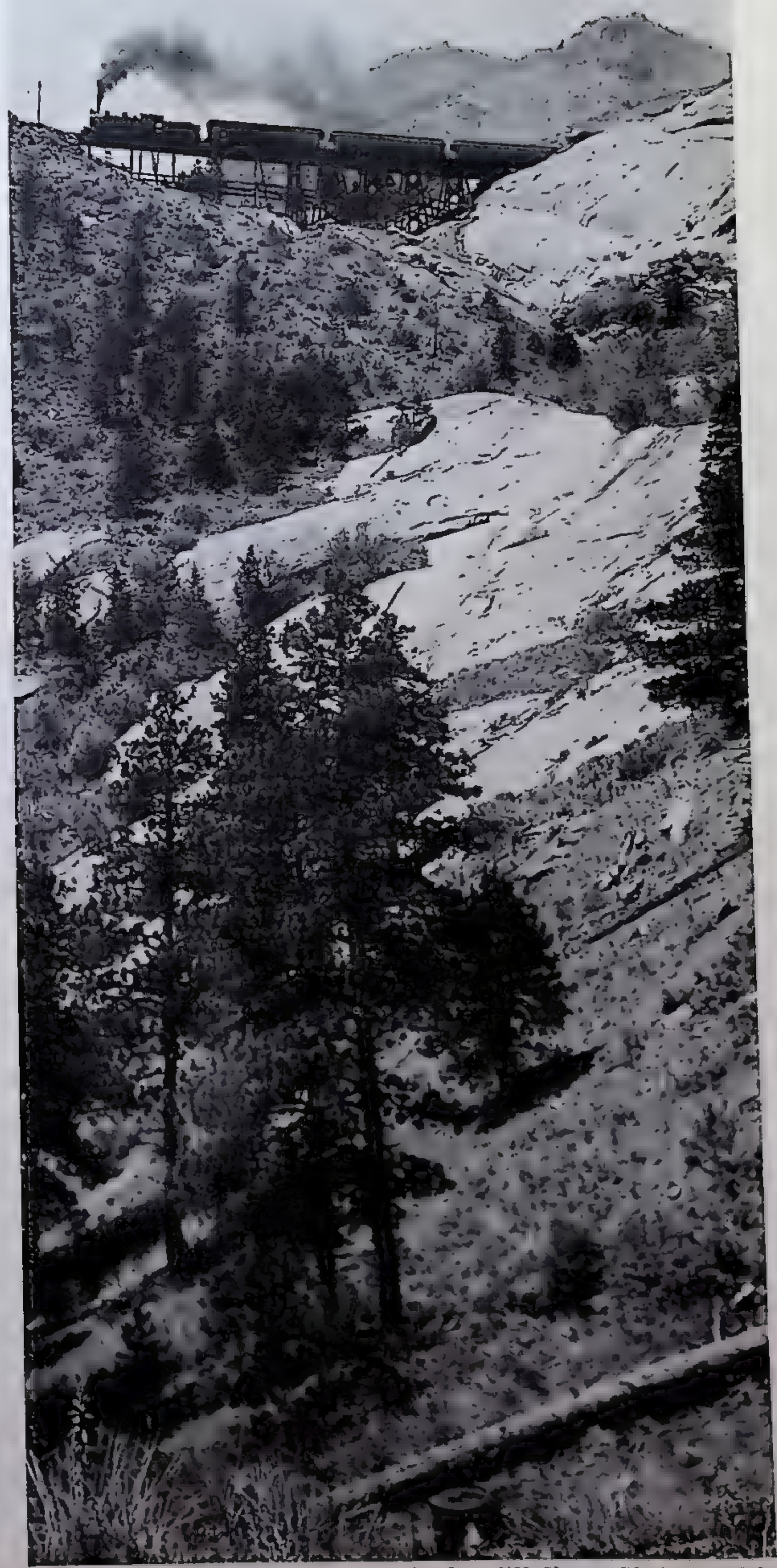
If there are enough in your party to manage it get a round trip ticket on the MT for half of the party, drive the other half over the Corley route, and switch parties at Cripple Creek for the return trip. If you stay overnight at Cripple Creek, watch the MT start a drag of ore with five or more engines at about 2 a.m. It's a sight you'll never forget.

Linn H. Westcott.

Silver Cascade Trestle.

This is how the trestle above Silver Cascade Falls looked last Summer. In a few seasons all the trestles will be gone; road under construction in the left distance is to avoid the bridge. On the opposite page is this same trestle photographed about 40 years ago by one of the pioneers in Colorado railroad photography. The 54-mile winding railroad was built in a year.

Line in Colorado



This shows how the CS&CCD clung to the sides of steep cliffs. The railroad was a 4 per cent standard gauge line tapping the silver flow from Victor, Goldfield and Cripple Creek. Finished in 1901, it was torn up in 1923 by a man named Corley for whom the present highway is named. TRAINS plans to run a longer story on this interesting line at a later time.

L. O. McClure, 2138 Glenarm Pl., Denver, Colo.

Courtesy North Shore Line.

The North Shore Line is a railroad electrically operated.

You buy your ticket on the ground floor at 223 S. Wabash in Chicago; walk up stairs, over a bridge to the platform of the Chicago Elevated. Here, every hour on the hour, a colorful train pulls up to the platform, stops just a moment or so, then wafts you around Chicago's loop, and up the North Side. When you hit the four-track main, the chimneys go by like a picket fence. In Skokie Valley the track is on the level, and the rest of the way to Milwaukee is largely through fields and woods. The Chicago, North Shore & Milwaukee is more than an interurban; its freight business is important and its right of way is heavy main line with expensive overhead trolley construction. North Shore almost lost its life in 1938 when service was suspended during a labor controversy. North Shore cars were once painted green, later orange with red trim, now blue-green, gray-green, and red with variations. The car below was one in a train of 15 taking the boys from Ft. Sheridan to fight "for democracy" a quarter of a century ago. This is on the old main line, now called "Shore Line Route" and used for suburban service. The new main line is farther west.

Courtesy Richard Wagner, 107 Pleasant St., Highwood, Ill.

Cross Roads of the North

★ Rouses Point (N. Y.) first served by Champlain & Ogdensburg RR., now part of Rutland system.

On Oct. 1, 1850, the first passenger train made the 117½-mile run from Ogdensburg to Rouses Point, N. Y., over the Champlain & Ogdensburg RR., now part of the Rutland RR. system. The charter was obtained in 1845; the route was surveyed and work began in 1849. A huge building designed to serve as both a station and a hotel was constructed at Rouses Point in 1852. For some years its upper rooms served as sleeping quarters for travelers, who could obtain meals in the dining room below.

The Vermont & Canada RR. was constructed at the same time from the southeast to Windmill Point, Vt., on the east side of Lake Champlain. To complete the link between Ogdensburg and Boston a bridge across the lake was built and opened to traffic in 1852. The first draw span was actually a boat, 300 ft. long and 30 ft. wide, which was operated by steam, one end being hinged to the bridge and the other free so that it could be swung to permit the passage of boats. Elevating aprons brought the tracks together regardless of high or low water. This draw proved inefficient, however, and one of the turntable type was installed after a few years. It is still in use.

By 1883 five railroads centered in Rouses Point, adding their traffic to that of the lake and highways and causing the city to become known as "the cross roads of the North."

Rutland RR. ancestor.

The Rutland RR. is one of the connecting routes between the New York Central and the Canadian National systems. Starting at Chatham, N. Y., White Creek, N. Y., and Bellows Falls, Vt., the lines join at Rutland, Vt. Beyond Rouses Point, N. Y., the line runs west to Ogdensburg; this portion was once the Champlain & Ogdensburg mentioned above. Below is shown one of the C&O's early locomotives. The design of the stack and the inboard pilot truck suggest that the photo was taken not long after the line was built.

Cut courtesy the North Countryman, Rouses Point, N. Y.

A Streamliner Is Born

★ *Dixie Flagler* is one of three new high speed trains, pioneers in fast Chicago-Miami service.

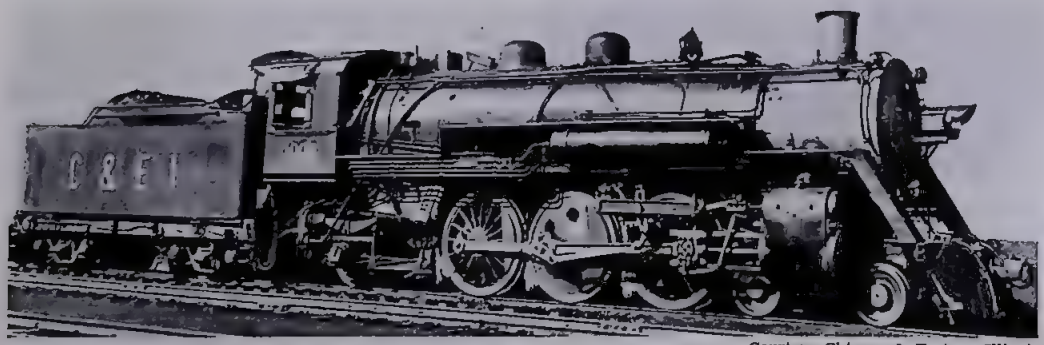
NINE railroads cooperate in friendly competition! The *Dixie Flagler* is one of three new streamliners which run in turn by three different routes between Chicago and Miami. The *Dixie Flagler* starts on the small, aggressive Chicago & Eastern Illinois and runs via the Louisville & Nashville, the Nashville, Chattanooga & St. Louis, the Atlanta, Birmingham & Coast, the Atlantic Coast Line, and the Florida East Coast railroads. The other two trains are the *South Wind*, via the Pennsylvania, L&N, ACL, and FEC, and the *City of Miami*, via Illinois Central, Central of Georgia, ACL, and FEC. Notes on their schedules and routeings are included with the map on page 40.

Each of the cooperative railroads had to arrange schedules, aline track, and supply motive power for the trains. Some ordered Electro-Motive Diesel units and others used various types of steam power. This sounds simple, but it meant extensive work on new designs and plans, and extra shop work. Take the case of the C&EI for an example. Engine No. 1008 was chosen for the service. It was a medium-sized Pacific. A hood was built over the tops of all domes, flush with the stack. A special smoke raising device insures visibilty at high speeds; many other improvements were made in addition to the regular shopping. No. 1008 was girthed with a broad aluminum stripe between two narrow red bands. Fancy initials add to the speed effect. In all, C&EI spent $2300 on 1008 for her "permanent" and considered the amount economical compared with cost figures of similar conversions.

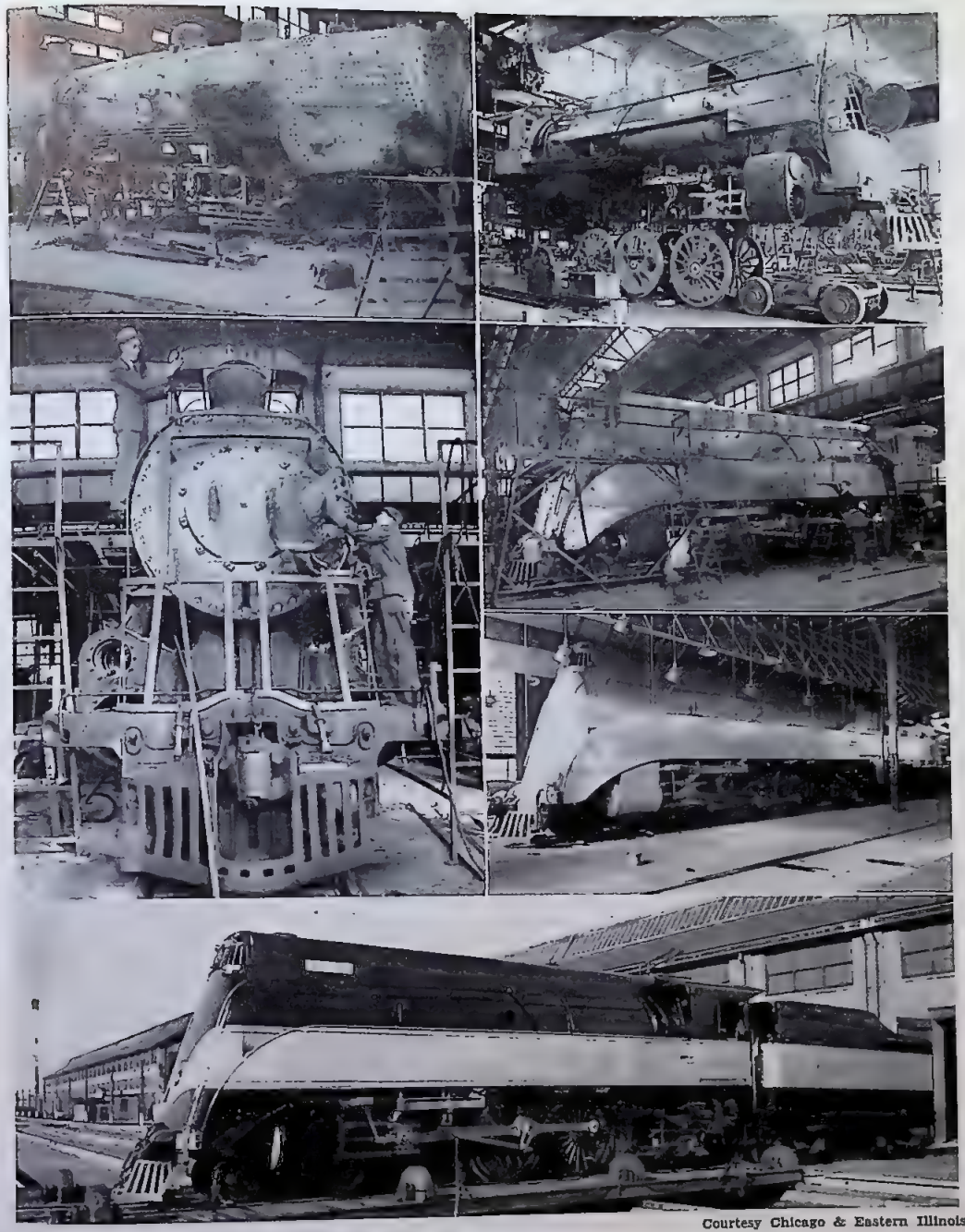
Cars for the train are Budd-built and finished in the modern manner. The train is all-coach, seven cars in all, and carries 254 passengers. New foam type cushions insure comfort in the reclining chairs. Each seat has an individual reading light, arm rests on both sides, and wide windows for viewing the scenery. The publicity department points proudly to the outlets for electric razors and

When this engine was built, streamliners were a dream.

This is the way C&EI No. 1008 looked last year; to other than a railfan it looked just like any other locomotive. Now, with the addition of a streamlined shroud, it is the object of attention all along the right of way to Evansville. After it was decided to operate the *Dixie Flagler*, this engine was chosen for the new fast service, and while track workers checked ballast, rail joints and alinement, the engine was getting its face lifted in the company's shops at Danville, Ill. Specifications of this Pacific type locomotive are: Class K-2a (was K-2); drivers, 73"; cylinders, 26½" x 28"; pressure, 200 pounds; tractive force, 45,970 pounds; weight on drivers, 173,700 pounds; total weight, 448,600 pounds; factor of adhesion, 3.79. The engine has Walschaert valve gear, automatic stoker, and had Scullin disk main drivers before conversion, Boxpok after.

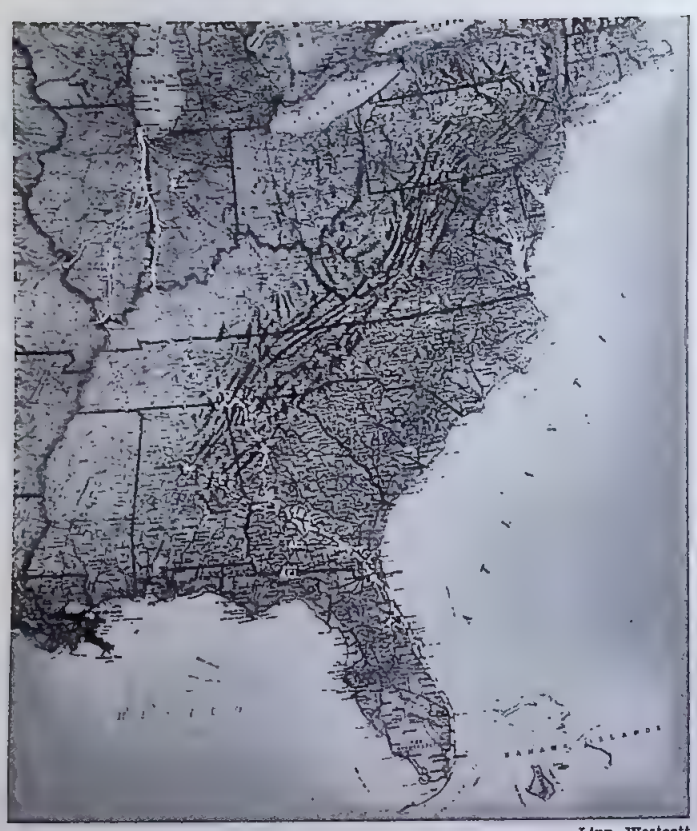


Courtesy Chicago & Eastern Illinois.



Courtesy Chicago & Eastern Illinois.

C & EI shops at work renovating engine 1008 for streamliner service on the *Dixie Flagler*. The first step was to remove the lagging, running boards, drivers, trucks, pistons, valves and cab. The inside of the boiler was inspected, flues replaced where needed, deposits cleaned out. While machinists refitted pistons and valves, welders built a support for the streamlined shroud. The shroud makes only a small difference in steam locomotive speed, but conceals all domes and most piping and fittings from view. As the shroud covers were fitted, wheels and valve gear were assembled into the frame. New surfaces were ground, spray-painted, side rods polished, and out of the shop came a "new" locomotive.



Linn Westcott.

Three streamliners, Chicago-Miami.

This is a map as of Feb. 3, 1941. On this day, and on the 6th, 9th, 12th, and every third day, the *Dixie Flagler* leaves Chicago at 9:40 a.m., speeds down to Evansville on the C&EI, where it is quickly turned over to the L&N. The train uses NC&StL tracks between Nashville and Atlanta, then runs on the AB&C to Waycross and the ACL to Jacksonville, arriving at Miami via the FEC at 4:10 p.m. the next day. The heavy white line shows the portion of the trip pulled by C&EI's engine 1008. The heavy dashes show the route between Evansville and Miami. C&EI has other trackage, shown here in light solid lines. Feb. 1 saw the *City of Miami* leave Chicago via IC to Birmingham, CofG to Albany, ACL to Waycross and Jacksonville, FEC to Miami. This route is shown in light white dashes. The dotted line is the route of the *South Wind*, P RR. to Louisville, L&N to Montgomery, thence via ACL and FEC. Each train returns the same day it reaches Miami.

curling irons in the wash rooms. Since the train is all-coach, anyone may use the lounge-observation car, and there are dining and tap room services.

An interesting sidelight on the new service was told in the Chicago papers early last year. Chicagoans wanted faster service to Florida. New York had it in the *Silver Meteor* (P RR., Seaboard Air Line, FEC) and the *Champion* (P RR., ACL, FEC); Florida even had a streamlined local, the *Henry M. Flagler*. At first it seemed as though the railroads of the South were not in good shape for fast runs. Chicago pointed out the success of the Union Pacific, the Burlington, the Southern Pacific and other Western lines that were running streamliners over track that was previously bumpy. Chicago won, and now Chicago has trains by three routes, not just one, to Miami.

From Waycross, Ga., junction point between ACL's routes and AB&C, to Miami, the streamliner schedule is daily. The three trains, each every third day, are on identical time. This service gives a daytime (9:40 a.m. to 4:10 p.m.) fast service from Jacksonville to Miami which replaces FEC's *Henry M. Flagler*. The running time in this local sector is half an hour longer as a cushion to absorb delays on the run from Chicago.

All this reminds one of the new train of the C&EI which steamed out of Dearborn Station 41 years ago. It was the *Dixie Flyer*. Cars were freshly painted and had genuine vestibules so passengers would not lose their hats as they passed from car to car. This train contributed its part toward the development of Evansville, Chattanooga, Nashville, and Florida resorts. Indian trading posts in swamps became fashionable watering places with their broad lawns, white boom hotels, and long gingerbread piers extending into the ocean. The name *Flagler* itself comes from Henry M. Flagler who made his wealth in northern Ohio and helped build the Florida East Coast RR. in that era. Now the *Dixie Flagler*, the *City of Miami*, and the *South Wind* follow in the steps of progress, making it possible for the first time to ride safely to Florida in only 29½ hours.

Wabash Ry. at Chicago

★ Best time of year for photographing Wabash locomotives is now; best place is Landers Yard.

*By Paul Eilenberger.**

GIVE the average railphoto fan a road where he knows he's welcome, a good variety of power to shoot at, and a good lineup with plenty of sunshine in the right spots, and he's just about the happiest man on earth.

Such a railroad is the Wabash in the Chicago area. The season between Oct. 21 and Feb. 21 is the time of year when Wabash possibilities in Chicagoland are at their best, since the only spot where a full variety of power can be found is on tracks that need a low south sun. This spot is Landers Yard.

Just about every class and type of power the Wabash pulls into the Windy City will be found at Landers. No need for chasing around the terrain hither and thither, as with the Burlington [TRAINS, Dec. '40]. Weather conditions at this time of year will also make an occasional visit to our cars a welcome interlude. [*Hint*—Keep a nip of hot coffee handy in a thermos bottle.]

Landers Yard is stretched out along the north side of 79th St., roughly between California Ave. and Kedzie Ave. It is triangular in shape. The main parallels Southwest Highway from about 75th St. southwestward, and crosses both 79th St. and Kedzie Ave. on a magnificent new viaduct. Just east of this bridge branch off the tracks where we'll spend most of our time. These parallel 79th St. to the engine house, about two or three blocks east, where the right angle of the triangle is located. From there, an inbound track for passenger engines runs northward up to the main again, completing the triangle.

There is probably no one day in the week when activity reaches any maximum, but Sundays are the poorest. Whichever day we select for our visit to Landers, we'll plan to arrive there about 11 a.m. Parking our car along 79th St., opposite the roundhouse, and before trying any shots, we'll look for the foreman, Mr. Tracy, introduce ourselves, and let him know what we'd like to do. Under such circumstances, Mr. Tracy is usually very friendly and cooperative, and will probably tell us to use our heads, our ears, and our eyes, and not try to take any shots with our tripod set up in the middle of a track, nor to cross any tracks without taking extreme care. All of which we're supposed to have enough sense to do anyway, but it doesn't hurt to be reminded once in a while, in case we get careless.

Having received Mr. Tracy's okay on our expedition, we'll wander westward, toward several of the service spots where incoming and outgoing engines customarily stop. We may or may not find anything of interest at the moment here, as it is a little early for most of the afternoon callboard items to be emerging from the house. However, if there is anything on hand, it will likely be one or more of the yard goats getting a hurried servicing before the afternoon rush starts.

The Wabash's assortment of yard goats at Landers includes at least three different types, and four or five classes. In passing, it might be noted that most of them will be found facing east, with still reasonably good front-end lighting. One engine of Class B-6, 0-6-0 type, the 511, works in and around the yard, but all the other 0-6-0's, of which there are several, will be of the B-7 class, the most numerous 0-6-0's on the road. The groups 525 to 536 and 547 to 554 were Rhode Island-built Alco herders (1906), and the remainder Baldwins, 537 to 546 (1907) and 555 to 566 (1912).

The other two types are the 0-8-0 and 2-8-0. Of the 0-8-0's, most of them will be C-3's, although occasionally a C-4 is to be found. The C-3's are Schenectady-built (1923), and are numbered 1525 to 1544; the C-4's are Limas, slightly heavier, and run from 1545 to 1569. These were built in 1926.

*As told to John F. Boose.

Both closely resemble the the U. S. R. A. 0-8-0's.

The I-3 class of Consolidations, as originally built by Baldwin in 1906, ran from 2301 to 2330, but there are now several gaps in the series. They are widely used as utility engines all over the system, mainly as light way-freight power and as herders.

Like as not we'll see smoke arising from several spots in the yard during the half hour or so after we arrive, but since all of the yard goats occasionally come back for servicing at the sand tower, water plug, or coal chute, why spend good energy tracking them down?

Shortly before 11:40 we'd best hike back to our car for a short ride down to the new bridge and a flying action shot of one of the best known hotshot highliners in the Middle West, the *Banner Blue*. A feather of smoke to the eastward, a long, low, melodius blast of her whistle, and here she comes! Proudly at her head we'll see, no fancy streamlined shrouds, no roaring Diesels, but a good old 1912 Pacific, carrying the mail and holding her own, and showing the world of 5½-hour Chicago-St. Louis travelers that steam can take it. Indeed, not long after we've completed our day's work at Landers, she'll be threading her way through St. Louis' northwest side, approaching the road's famous Delmar Blvd. Station.

More than likely—though not always—that high-stepping Pacific will be one of the quartet of specially decorated *Banner Blue* engines, painted blue with gold lettering and striping to match the rest of the train.

Following this interlude, we'll return to our original spot for more prosaic items of business, and a nip of that hot coffee. Within the next four hours we'll see most, if not all, of the heavy road power that the Wabash runs into Chicago. There are a few classes of heavy Mikes that seldom find their way into Landers, but are found mostly between St. Louis, Kansas City, and Detroit.

Back in 1929 and 1930 Baldwin built for the Wabash two of the finest groups of motive power in existence anywhere today. The first group consists of 25 Mountain types, numbered 2800 to 2824, Class M-1; the second, 25 Northern types, numbered 2900 to 2924, Class O-1. During the rest of the afternoon we'll doubtless see several of each class, in perfect position for good shots, and all facing west, toward a southwest sun.

Interspersed among them will be at least two varnish greyhounds, almost certainly another Pacific of the J-1 class, and what will probably be the most interesting shot we'll garner while at Landers, one of the 40-year-old high-wheeled Atlantics, still the pride and joy of the Wabash speed department. Atlantics are disappearing fast all over the country, but not so on the Wabash! No less a train than the *Banner Blue's* companion hotshot, the less widely known but slightly faster *Blue Bird*, is customarily in tow of one of these high-stepping 4-4-2's. Leaving Dearborn Station, Chicago, at 4:30 p.m., she arrives in St. Louis 5 hours 15 minutes later. If we want to stick around until about 4:40, we'll see her stepping along in fancy fashion, although probably by that time a speed shot will be out of the question.

These Atlantics are of two classes, the E-3 group, Brooks-built in 1903, and the E-4 class, Baldwins, built the following year. In spite of their age, however, they are still hanging up records probably surpassed only by the much newer and heavier Milwaukee Road's Hiawatha type of modified 4-4-2.

Wabash's younger Pacific varnish-haulers are also remarkable for some of the records they have been hanging up. There are 16 of the J-1 class (660 to 669 from Richmond and 670 to 675 from Baldwin), all built in 1912. Their appearance shows their excellent condition and the meticulous care they receive. One of them pulls a Decatur local from Dearborn Station at 5:35, performing what little suburban work the Wabash still does.

The foregoing comprises most that the Wabash customarily brings into Landers, but occasionally there are others that wander in on special assignment or for protection. Five years ago two of the remaining 4-4-0's in the roster, the 653 and 657, Class D-30, sat there in storage practically all Summer and Fall. They were scrapped early in 1936. Along with them for a while was one of the early Prairies, the Wabash being one of the few roads that used a considerable number of this type. Even yet, one or two may occasionally be seen at Landers.

There were originally 99 Prairies, 30 by Baldwin in 1906, the remainder from Alco's then newly acquired works, the Rogers plant at Paterson, N. J. They were among the last engines built at Paterson (in 1907). Some years later, as Prairies began to be unequal

Paul Ellenberger, 380 E. 71st St., Chicago.

The Northern type is big power on the Wabash.

No. 2917 is pulling the weekly "Banner Tours" train for Mexico City; Missouri Pacific will take it at St. Louis, Nacional de Mexico at Laredo, Tex. The locomotive is one of the O-1 class (4-8-4) built for Wabash by Baldwin in 1930. It has 70" drivers, 24½" x 32" cylinders, 250 pounds steam pressure, weighs 454,090 pounds, and can exert a tractive force of 70,817 pounds. This engine has 274,100 pounds of its weight carried on its drivers. If you divide this by the tractive force, you get what is called the *factor of adhesion*. The factor of adhesion represents the ratio of weights allowable without slipping. The Wabash Class O-1 factor is 3.9. It is sometimes as low as 2.5 on an electric or Diesel-electric engine since the pull is uniform as the wheels turn. Because the steam engine gives only four pushes per revolution, a larger factor must be used.

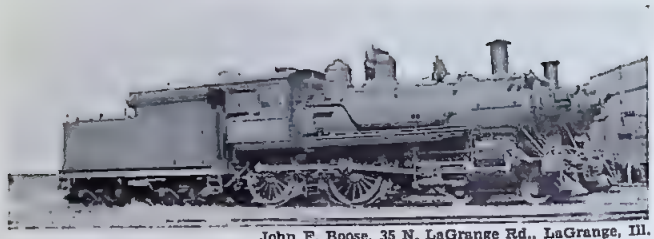
to the jobs on which they were assigned, the Wabash rebuilt a group of them into 4-6-2's, Class J-2. The first was the 699, rebuilt in 1916, and from then on they followed in reverse order of numbering, until 1926. The 683 was the last in this series. Besides these, six others were rebuilt and numbered down from 1681 to 1676. More about the reason for that later on.

It is not often nowadays that one of these light 4-6-2's is seen around Chicago, but if one is, it will more than likely be at the head of the Decatur local mentioned before. Years ago, when the Wabash still ran its Chicago-Detroit varnish on its own rails all the way, these J-2's were a common sight. Today, even the Prairies are becoming scarce.

Two other classes are sometimes seen at Landers. One is the K-1, the lightest Mike on the road, now rapidly replacing the older and lighter Prairies and Consolidations as the standard way-freight power. The other is the L-1 class of Santa Fe's, the Wabash's only heavy drag engines. Most of these last are at present sitting in storage at Decatur, Ill., too new and too good to scrap, but just not able to take it for speed with the newer and faster Mountains and Northerns. What will happen to them eventually, nobody but the Lord and the Wabash executive committee knows, but one thing is certain—a shot of one of them under steam these days is a genuine rarity.

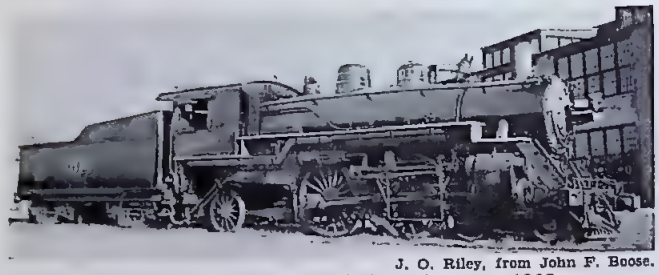
For the fan whose principal joy is tracking down the oldest motive power he can find, Landers is definitely *not* the place. For such choice tidbits of railphoto lore one must wander considerably farther afield. Chief among these gems are two groups of Moguls (the F-4 and F-7 classes) which the Wabash still operates into spots where nothing else dares venture, and the B-8 class of 0-6-0's, degenerate F-7's minus a pony truck. These last are numbered 499 down to 481 as they were rebuilt, from 1917 to 1923, and are just about as scarce and hard to find as the F-7's themselves. The Moguls are principally found on the road's few branches.

One interesting note might be made about the numbers of the F-7 class, and of certain



John F. Boose, 35 N. LaGrange Rd., LaGrange, Ill.

No. 653, Class D-30, 4-4-0, Rhode Island 1899.



J. O. Riley, from John F. Boose.

No. 614, Class E-3, 4-4-2, Brooks 1903.

Paul Ellenberger.

No. 554, Class B-7, 0-6-0, Alco-Rhode Island 1906.

Paul Ellenberger.

No. 1533, Class C-3, 0-8-0, Alco-Schenectady 1923.

John F. Boose.

No. 2313, Class I-3, 2-8-0, Baldwin 1906.

Awaiting the verdict.

No. 653, just after the last of the strictly suburban trains were pulled off in 1935, sat in storage at Landers Yard, awaiting the executive committee's decision on whether she would ever turn a wheel again. Beyond her nose can be seen the front end of her sister 4-4-0, the 657. Both were scrapped at Decatur in 1936.

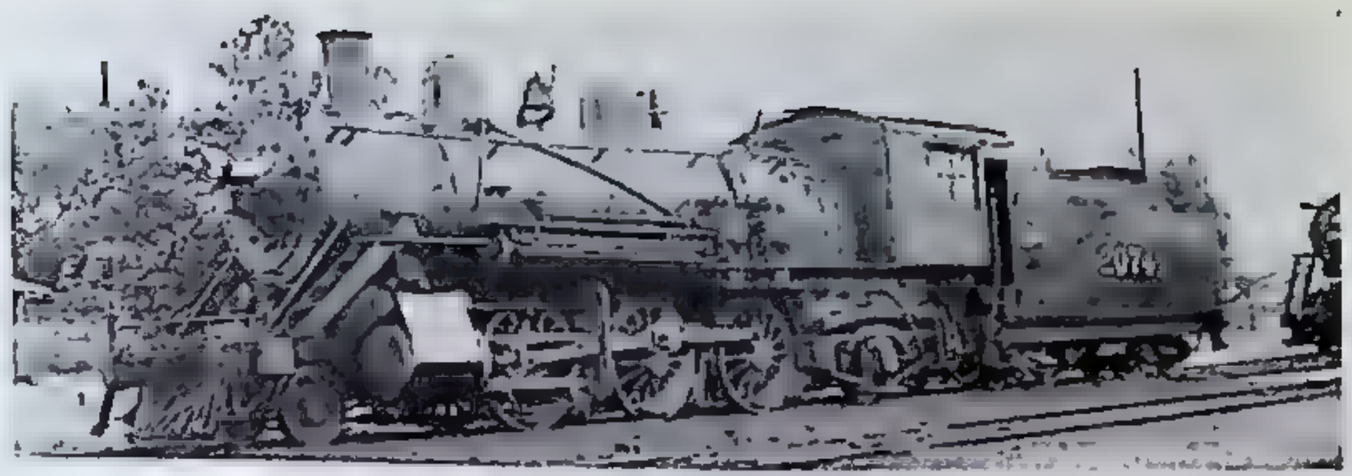
J-2's, referred to before. Normally, the F-7's extend, now, in scattered fashion, from 808 to 903, but among them will be found a few with an extra 1000 added to the number. Similarly, the J-2's, 1681 to 1676, carry the extra digit. These engines at one time did, and possibly still do, operate on the *Canadian* lines of the Wabash, and were so numbered to distinguish them from the American-operating engines.

Incidentally, two former Wabash F-7's, the 852 and 1899, were sold a few years back to the Chicago, Attica & Southern, a small pike crossing the Wabash high iron at Attica, Ind., once a part of the Chicago & Eastern Illinois system back in the days when it in turn was part of the Frisco system, and for a few years thereafter. These two still carry their original Wabash numbers, though now, of course, with strange initials.

One spot on the system where a great variety of power can be found is at Decatur, Ill. Among the assortment is what is left of the I-2 2-8-0 class, two rebuilt 0-8-0's carrying a C-1 on their cabs, and most of the heavy Mikes, including the much-sought-after three-cylinder K-5 class. However, the individual camera hound who dreams of "doing" Decatur will do well to procure for himself an authentic photography permit from headquarters before

A last survivor.

No. 2074, one of the last engines built at the Rogers shops, at Decatur in 1938. Notice the unusual combination of Stephenson valve gear and piston valves. Classes B-7, C-1 and I-3 also have it. The Prairies that were rebuilt to Pacifics [*see* text, p. 42] were fitted with Walschaert valve gear.



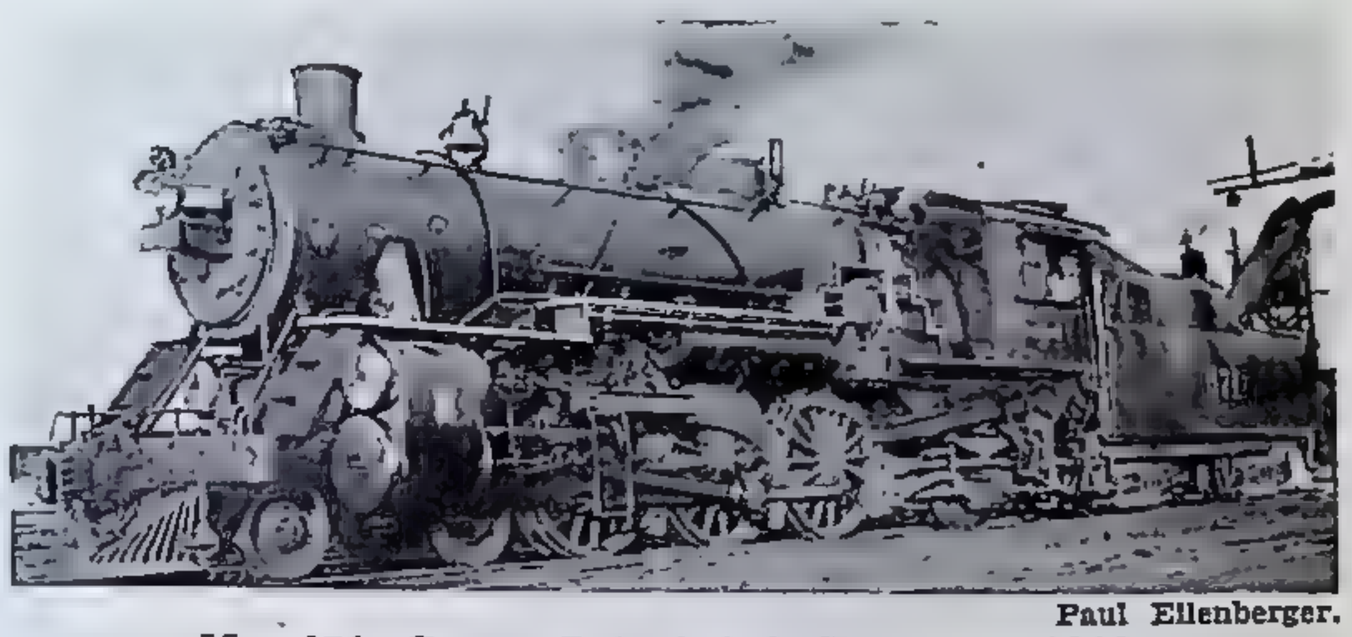
W. Rogers, from John F. Boose.

No. 2074, Class G-1, 2-6-2, Baldwin 1906.

venturing forth to take his pictures.

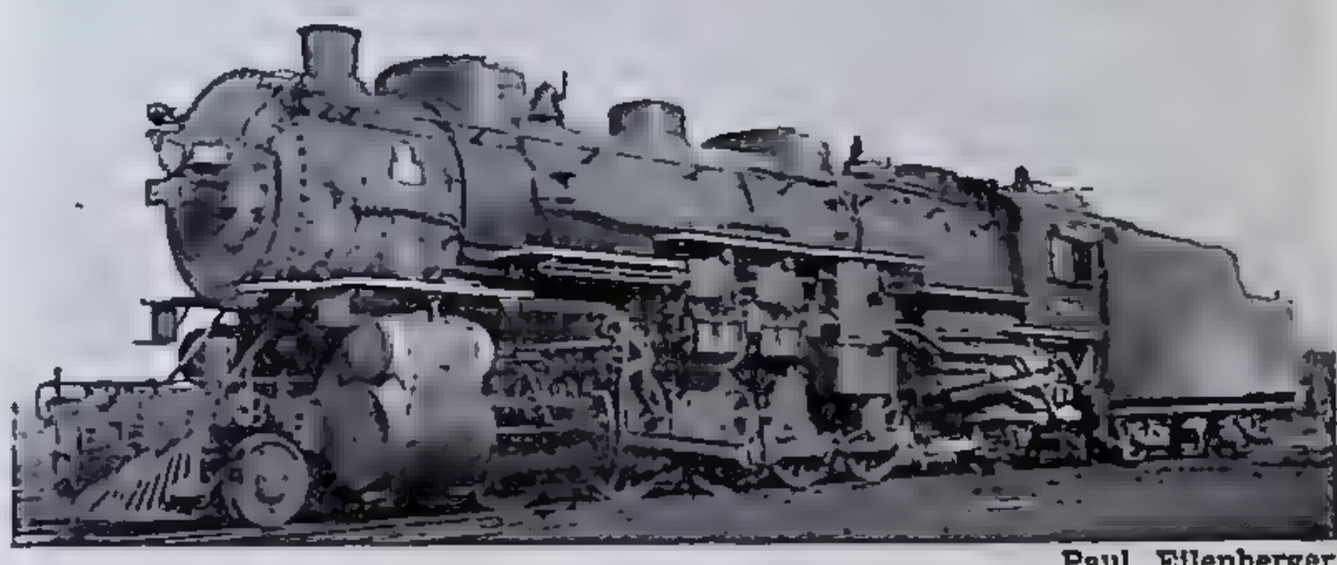
As for types of film best suited to Wabash photography, high-speed pan film is rather clearly indicated at this particular time of year, with its yellowish sun. Particularly is this true if any great number of the *Banner Blue* Pacifics is expected to be entered in the data book. Ortho film will register the blue lighter than it should be, and the gold lettering and striping darker. However, since the Wabash is one of the few roads that has never changed over to the much more common number-on-cab and emblem-on-tank decoration scheme, but keeps an easily legible number on the tank, this is not vitally important. On all but the blue Pacifics, the color scheme for the numbers and other inscriptions—and frequently the builders' plates—is silver, which photographs equally well on either ortho or pan film.

There are many other places along the Wabash line where interesting locomotive and train photographs may be taken. The railroad extends from Kansas City to Buffalo, N. Y., via the Ontario side of Lake Erie. In Canada the road operates freight service only. Besides this line there are Chicago-St. Louis and Chicago-Toledo mains, and branches to Keokuk, Quincy, Des Moines, and Omaha.



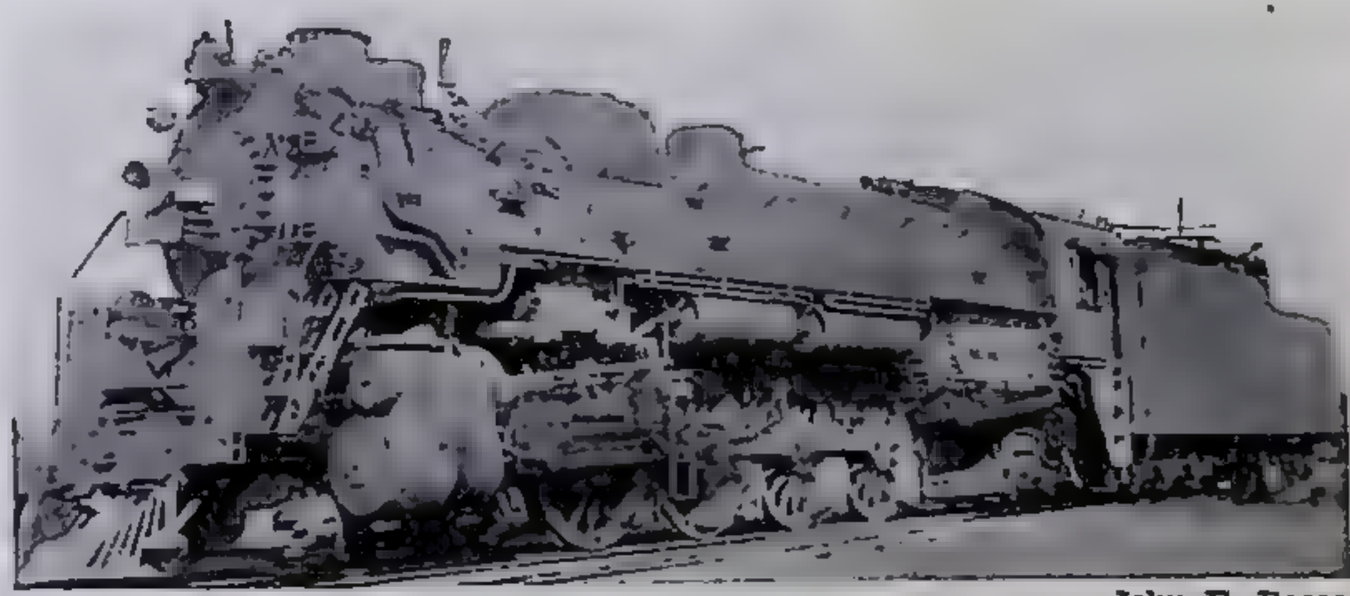
Paul Ellenberger.

No. 671, Class J-1, 4-6-2, Baldwin 1912.



Paul Ellenberger.

No. 2507, Class L-1, 2-8-2, Alco-Brooks 1917.

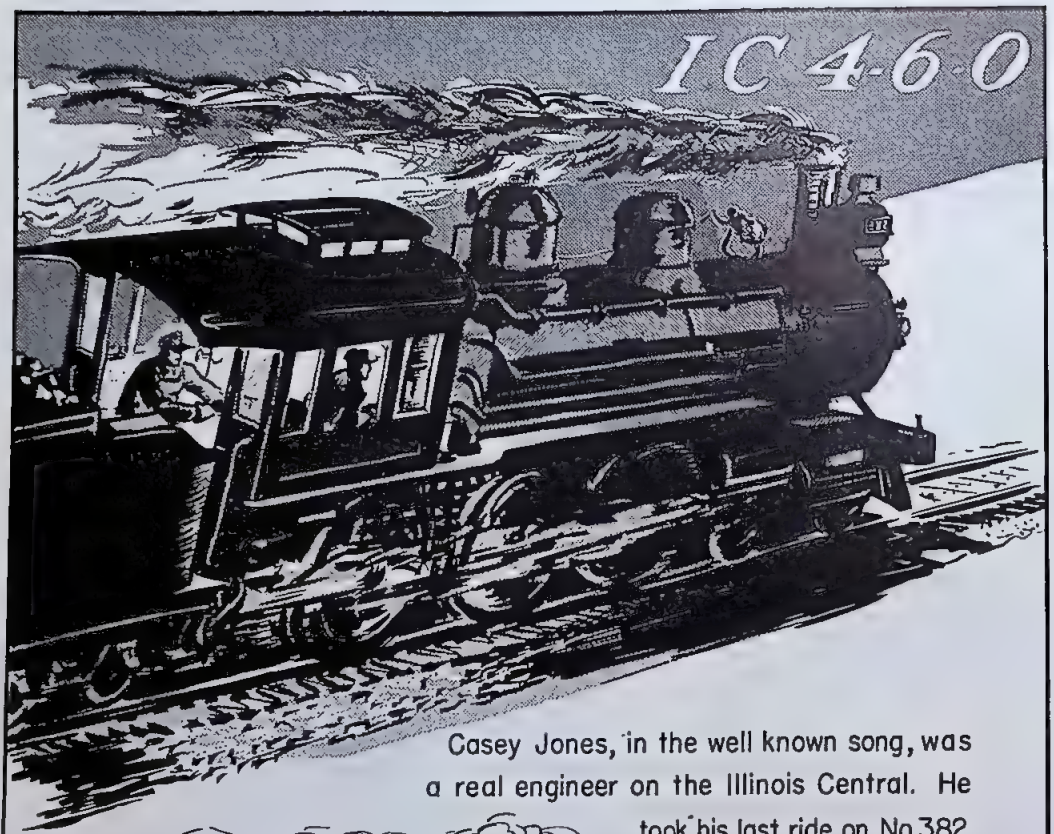


John F. Boose.

No. 2824, Class M-1, 4-8-2, Baldwin 1930.

Paul Ellenberger.

No. 2903, Class O-1, 4-8-4, Baldwin 1930.



Casey Jones, in the well known song, was a real engineer on the Illinois Central. He took his last ride on No.382, a Ten-Wheeler. The engine was later renumbered as 2012 and then as 5012.

Built by Rogers. Drivers 69." Cylinders 19"x 26."
Tractive force 21,922 pounds. Tender 5 000 gallons, 12 tons.
Height of engine 14'- 8½."

Data courtesy
F. R. Mays.

Lucius Beebe.

Hiawatha at 100 per on the speedway.

Milwaukee Road's *Hiawatha* makes the 57.6 miles between Tower A-20 and Lake Forest in 38 minutes, 90 m.p.h. average, with slacks for Roundout and Sturtevant interlockings and another for a curve at Deerfield marked "Reduce to 90." This is a part of the 75-minute, 85-mile Chicago-Milwaukee run on which the steam-powered streamliners often hit 100 as in this photo showing Class A, 4-4-2, No. 1 with its customary nine-car train at West Lake Forest on fast tangent track. Passenger train service between Chicago and Milwaukee ranks with the finest in the country, although up to Jan. 2, 1935, competing roads, by gentlemen's agreement, restricted the speed to 105 minutes over all time. On that date the North Western jumped the gun with its Twin Cities "400," 75 minutes running time. Milwaukee Road countered with a number of fast Chicago-Milwaukee expresses, and now has four 75-minute, five 80-minute, six 85-minute, and 10 other passenger trains. North Western has 21 and North Shore 36 trains on this run.

Letters

★ A&A runs both ways; Col. Pete's Road; unusual load.

Arcade & Attica's Schedule.

"WAYBILLS" in the January issue wonders how the Arcade & Attica gets its equipment back to the north end of the line, saying "It runs two regularly scheduled trains southbound and one train northbound."

Your clerk in charge of "Waybills" apparently made an error. The northbound train operates daily; one southbound train runs daily except Sunday, and the other Sunday only. In other words, one train each way each day. The weekday train waits for an Erie connection at Attica; the Sunday train doesn't.

William C. Kessel.

92 E. Depew Ave., Buffalo, N. Y.

[Catcher-upper Kessel is right. The *Official Guide* proves it. However, we'd still like to know about the Winston-Salem South Bound RR.!—*Ed.*]

Much Better in '37.

"THE Modern Schlafwagen" on page 39 of your December issue is amusing, but antiquated. The *modern* schlafwagen (1937) is quite different from the "modern" schlafwagen (1926). I traveled from Berlin to Vienna in one of these Mitropa cars and had a fine trip.

On the exterior they are very similar to the passenger equipment on the Pennsylvania RR., with their bright red, shiny bodies and the gold lettering "Mitropa" on the side. Windows are double width, affording an excellent view. The interior is similar to that of a Pullman bedroom car except that the rooms are much larger. Highly polished fine woods in modernistic style make these cars a treat to the eyes. There is a lavatory at each end, and porter's room at one end. An interesting feature is that one can buy all sorts of candy, playing cards, soap, razors, etc., by simply asking the porter.

The first class compartments are much like a Pullman bedroom, with both a lower and an upper, offering far more breathing room than ours do. There are no individual toilets in these rooms, as in our cars, but there are fine folding wash stands.

The author gleefully points out that ". . . a second class passenger . . . may, after all, be a first class chap trying to save a few dollars." What he says is quite true, but that system is used throughout Europe, and also in America. If you don't believe it, be a coach passenger and try to ride in the club car, or even go a bit higher and buy a berth in a tourist car.

The cut on the bottom of the page is quite humorous, but also quite out of date. So, *Schlafen sie auch wohl, meine liebe Herrschaften!*

Robert Shoemaker.

Tome School, Ft. Deposit, Md.

Comments on *Trains*.

I FEEL that you took advantage of me in your selection of a cover photo for the December issue. My opinion was immediately prejudiced in favor of the issue when I saw one of the wheels which I helped design—Serial No. 105, left main wheel center of Illinois Central engine 2517. This engine is one of 21 4-8-2 type locomotives converted from a group of older 2-10-2 type at Paducah Shops during 1937 and 1938. This particular engine came out of the shop in January, 1938. The main wheel centers for these locomotives are General Steel Castings Boxpok design with full crossbalance. The original design, however, did not contain the full amount of balance we desired, but after some redesigning we were able to get even more than enough. Here is the data covering these wheel centers:

Steel wheel center	2340 pounds
Lead in balance box	3180 pounds
Main crank pin	565 pounds
Standard 4" tire	1515 pounds
One-half axle	1210 pounds
Total, one side	8810 pounds
Total for a complete pair of main wheels ready for application to engine	17620 pounds —approximately 9 tons!

To return to the magazine, the improvement in the pictures throughout is to be commended. There are more scenic views, mountain shots (of which I am particularly fond) and others which show that a railroad is composed of more than just locomotives. I also

like the treatment of some in which the picture runs to the edge of the page. There is sufficient variety in their location, treatment, and subject to keep one's interest aroused to the very last page, the back cover!

John S. Ingles.

P. O. Box 166, Homewood, Ill.

Col. Pete's Road.

THE story of the Central New York Southern is one of my favorites. It was also known as the Ithaca-Auburn Short Line, and colloquially as Col. Pete's Road. It was scrapped about 15 years ago; I have no idea what became of the equipment. Like so many, the railroad was begun very ambitiously but never completed. The line was about 34 miles long, from Auburn to Ithaca. Passengers were picked up at Ithaca and carried over the first 7 miles, which climbed a very steep grade, in a regular eight-wheel street car. A trolley freight car handled freight over this "division" and acted as locomotive, too, when necessary.

At South Lansing passengers were transferred to a steam train for the balance of the trip. The loco was an old Eight-Wheeler and the train consisted of a baggage car and coach. Inside the coach was fancy paneling, with Corinthian pilasters between each pair of windows. Elaborate oil lamps were still in place, although electricity was used. The old loco could step, too, thinking nothing of hitting 60 or better on good track. This train made two round trips daily, while two more round trips were made from Lansing to Auburn by a gas-electric car which, back in 1920 or so, had a round stern and round porthole windows. While the gas-electric made its trips, the steam loco made a freight run, picking up and setting out cars at the various towns along the line.

As the road ran through prosperous farming country, it did quite a business until killed by truck and bus competition. At Auburn there was a passenger station located at a crossing of the Lehigh and NYC tracks. At Ithaca there was a siding and freight shed with a platform for the trolley. The entire train was turned on a wye at Lansing, and I believe at Auburn also.

It is one of the sad thoughts of my life that I did not photograph all this equipment when I had the chance.

Charles D. Robinson.

234 Grand St., Newburgh, N. Y.

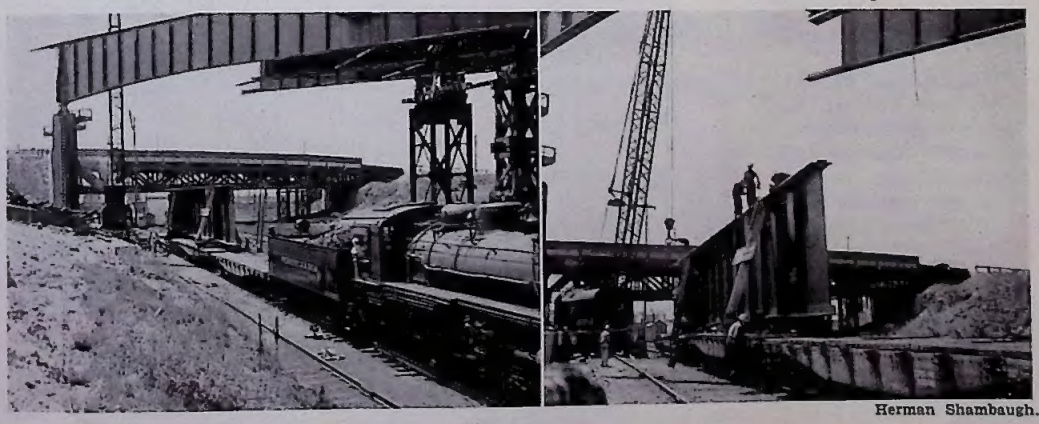
Unusual Railroad Load.

STEPS in the construction of a viaduct to carry highway traffic over railroad tracks are shown in the accompanying photographs. The first shows Pennsy No. 9212 spotting a 75-ton girder, part of the 270 ft. span which is said to be the longest in the Western Hemisphere. The span was erected piece by piece on the false work seen behind the locomotive. The second photo shows part of the hoisting operations.

The bridge, on Main Ave., is a connecting link in Cleveland's new lake front freeway system, and was designed in the Cuyahoga County engineer's office.

R. W. Germain.

1920 Standard Bldg., Cleveland, O.



Herman Shambaugh.

MORE-THAN-CARLOAD SHIPMENT IN ONE PIECE: A 70-TON STEEL GIRDER OCCUPYING THREE FLATS.

The Month

★ Alco in passenger Diesel field; rails needed for defense.

★ Although several companies have shared the business of building Diesel switchers, Electro-Motive dominates the Diesel passenger locomotive field. But today American Locomotive Co., working with General Electric, shows signs of earning itself a place in the passenger loco business. Two new single-unit Gulf, Mobile & Ohio streamlined Diesel locomotives were Alco built, as were two single units for Rock Island. And for near future delivery Alco schedules a double unit for Santa Fe, another single for Rock Island, and two double units for Southern. Appearance of Alco jobs is much the same as the General Motors Electro-Motive jobs.

★ Milwaukee Road started an 8-hour afternoon *Midwest Hiawatha* between Chicago and Omaha, 488 miles, with connections to Des Moines, Sioux City, and Sioux Falls. Original Hiawatha-type 4-4-2 steam locomotives do the work on the main stem, and dolled-up Pacifics on the Sioux Falls connection. Burlington countered by speeding its Diesel-powered *Exposition Flyer* to 8 hours Chicago to Omaha, 9 hours 20 minutes Chicago to Lincoln, and inaugurating the *Ak-Sar-Ben Zephyr* Lincoln to Chicago.

★ Overnight Diesel-powered streamliners now operate between St. Paul-Minneapolis and St. Louis by joint arrangement of Burlington and Rock Island lines. The mixed parentage produces the tag *Zephyr-Rockets* for the new trains, which include Pullmans and are drawn by single-unit locomotives.

★ Pennsylvania RR. Altoona Shops have streamlined two more K-4s Pacifics for use on the Chicago-Miami *South Wind* [see page 38]. PRR. handles the train between Chicago and Louisville. The streamlining is quite different from that on the K-4 streamlined some years ago.

★ Importance of the railroads to the nation is well shown in *Railway Age's* news that 1000 miles of new track is being built to assure rail facilities at strategic defense points. The government may favor trucks with subsidies, but when a fight looms railroads are needed!

★ Record trains were the Burlington's 20-car football special carrying 800 football rooters from Kansas City to Lincoln, and the Santa Fe's *Kansas Cityan* which recently handled 445 passengers out of Chicago and 451 into Kansas City in 18 streamlined cars behind a three-unit Diesel.

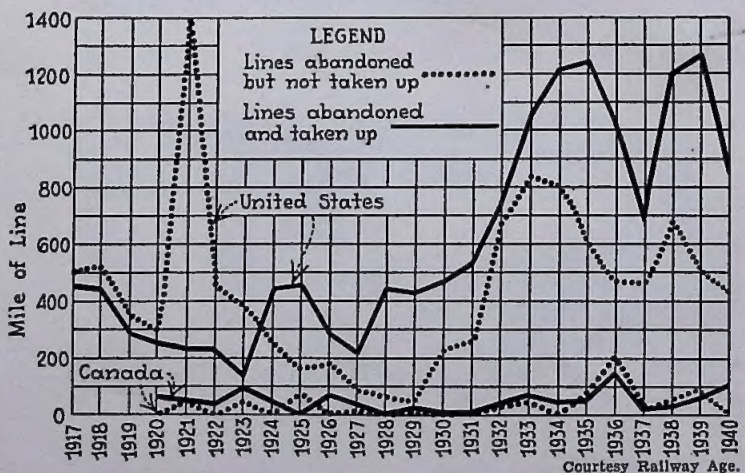
★ Chicago & Eastern Illinois [see page 38] Dec. 31 became the first of the railroads now in receivership to be returned to private management. The reorganized company is C&EI *Railroad* (was *Railway*) Co. The fixed interest charges were cut from $1,772,800 annually to $485,000.

★ Daniel Willard is for the 31st term B&O president. He was first elected to this post in 1910, and this year tried to turn down the presidency in favor of a younger man. The directors prevailed, however, and "Uncle Dan," one of the country's outstanding railroad men, is still on the job.

★ Abandonments include the entire Wichita Northwestern, 74.5 miles of main line and 25 miles of branches in west-central Kansas. Less than 10 years ago the WN was planning a 100-mile extension. Pere Marquette abandoned the 9.7-mile Huron & Western north of Bay City, Mich.; Atlantic Coast Line a 19.8-mile branch from Latta to Clio, S. C.; Pacific Electric, 2.8 miles near Long Beach.

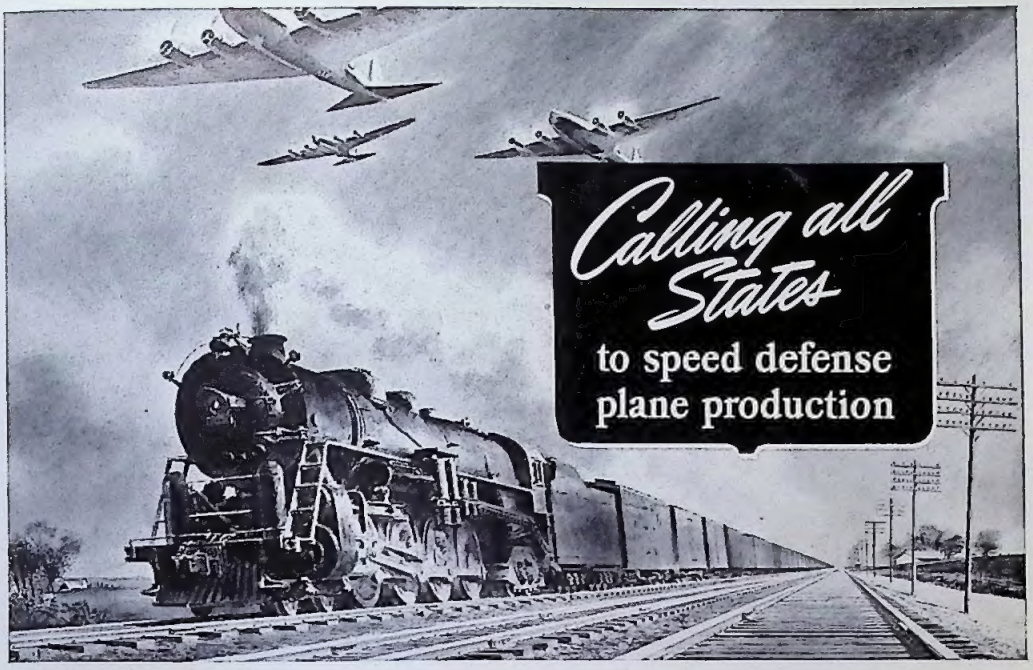
★ Lima is building for C&O 10 locomotives of a new wheel arrangement, Class H-8 2-6-6-6 articulated, which C&O will dub "Alleghany" type. The tender will have a six-wheel and an eight-wheel truck. Road numbers will be 1600-1609.

Abandonments, 1917 to 1940



Courtesy Railway Age.

American railroads abandoned more than 1000 miles of track in 1940. Much of this has not actually been taken up. Largest abandonment of the year was that of the Tonopah & Tidewater in California and Nevada.



WHAT does it take to build the airplanes needed to defend America?

First of all, it takes factories—new buildings.

Next, it takes machines.

And finally, it takes materials from every state in the union—everything from abrasives, acids, aluminum and antimony to tin, tungsten, turpentine, vanadium, wool and zinc.

How are all these machines and materials gathered from the far corners of the country to the factories where planes are built?

The answer is the same that you get for any other industry — the American railroads do the job.

According to one well-informed writer, "55 per cent of the average requirements for aircraft fabrication is shipped in excess of 1,500 miles for assembly."

At latest count, there were 79 aircraft manufacturers, scattered over 20 states—and beyond this, there were 23 aircraft engine manufacturers — scattered over 12 states.

Now, despite the size of America's aircraft program, it is not a big job to move the materials needed, measured in *tonnage*. There are industries which move a greater tonnage of freight in a week than aircraft construction requires in a year.

But in aircraft construction another factor is of particular importance, and that is reliability — accurate scheduling — on-time delivery.

And on this point also, the American railroads are today at the highest point of efficiency in history.

What they do for the airplane industry, they do for the farmer, the merchant, and all the industries of America—they haul the food you eat, the clothes you wear, the fuel that warms you, the things you use every day, handling America's traffic so smoothly that few people give it a second thought.

That's the best evidence that the railroads are America's No. 1 transportation system in their *competence* as well as in their size.

★ **NOW TRAVEL ON CREDIT**—America's railroads offer ★
★ new, simple installment payment plan for trips and tours. ★
★ You can take your car along too. ★
★ See your local ticket agent. ★

ASSOCIATION OF AMERICAN RAILROADS

WASHINGTON, D.C.

Courtesy Southern Pacific.